# NAVAL POSTGRADUATE SCHOOL
## Monterey, California

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A MANAGEMENT INFORMATION SYSTEM
FOR THE ANALYSIS OF THE
ARMED SERVICES APTITUDE BATTERY

by

Robert Joseph Forman

September 1983

Thesis Advisor: D.R. Dolk

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# A Management Information System for the Analysis of the Armed Services Aptitude Battery

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## ABSTRACT

This thesis develops a management information system called ASVABMIS for use by Army agencies conducting analysis using data from the Armed Services Aptitude Battery. The thesis develops a FORTRAN program that inputs demographic data and raw scores, and computes subtest standard scores, and the Army Classification Battery Composites. The output is directed to files designed to be easily used with the Statistical Package for The Social Sciences for statistical analysis. In addition, a data base management system is integrated into the information system for data organization and management.

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## TABLE OF ABBREVIATIONS

| | |
|---|---|
| ACB | Army Classification Battery |
| AD | Attention To Detail |
| ADP | Application Definition Processor |
| AI | Automotive Information |
| AR | Arithmetic Reasoning |
| AS | Automotive/Shop |
| ASVAB | Armed Services Vocational Aptitude Battery |
| ASVABMIS | Armed Services Vocational Aptitude Battery Management Information System |
| CA | Attentiveness |
| CC | Combat |
| CE | Electronics |
| CL | Clerical |
| CM | Maintenance |
| CO | Combat |
| CS | Coding Speed |
| DOES | Department of Evaluation and Standardization |
| EI | Electronics Information |
| EL | Electronics Repair |
| FA | Field Artillery |
| FDP | File Definition Processor |
| GI | General Information |
| GM | General Maintenance |
| GS | General Science |

| | |
|---|---|
| GT | General Technical |
| MC | Mechanical Comprehension |
| MK | Math Knowledge |
| MM | Motor Maintenance |
| NO | Numerical Operations |
| OF | Operators and Food Handlers |
| PC | Paragraph Comprehension |
| PCIOS | Processor Common Input/Output System |
| QLP | Query Language Processor |
| SC | Surveillance and Communications |
| SI | Shop Information |
| SP | Space Perception |
| SPSS | Statistical Package for the Social Sciences |
| SQT | Skill Qualification Test |
| SSS | Subtest Standard Score |
| ST | Skilled Technician |
| VE | Verbal |
| WK | Word Knowledge |

# I. INTRODUCTION

## A. PURPOSE

The purpose of this chapter is to discuss a problem faced by the Department of Evaluation and Standardization (DOES), Fort Benning, Georgia. In addition, this chapter will determine the feasibility of providing DOES with a computer-based management information system. Finally, this chapter will conceptually develop a system design that will meet DOES' needs.

## B. PROBLEM

DOES is responsible for evaluating and standardizing training programs developed by the Infantry School, Fort Benning, Georgia. DOES uses the raw scores that are a part of the Armed Services Aptitude Battery in conducting analysis of many of the training programs. Currently, DOES uses a manual system that requires a minimum of 21 entries into a conversion table, as well as the computation of 10 equations. This system becomes prohibitively time consuming with large sample sizes. For example, DOES is responsible for developing a selection criteria for the Infantry School's mechanized infantryman training program. The school trains approximately 100 soldiers during each training cycle which lasts only a few weeks. In order to process the data, and to develop the

selection criteria using the manual system, DOES would have to allocate much of its resources in terms of manpower and time to this project alone. Since DOES is unable to do this, the selection criteria has not been developed, and a large backlog of data exists which must be processed. Thus a speedier system is needed that can process the backlog as well as any new data using, at most, one analyst rather than the entire analytical manpower pool. ASVABMIS is the speedier system that will allow DOES to accomplish all of its requirements.

## C. FEASIBILITY

The feasibility of a computer-based management information system is apparent in surveying the hardware and software available to DOES. DOES has access to a UNIVAC 1100 mainframe computer with a FORTRAN compiler. In addition, the Statistical Package for the Social Sciences is available for statistical analysis, while the SPERRY-UNIVAC QLP 1100 system is available for data management. ASVAB raw data is provided in the form of prepunched computer cards. The only component that is lacking is a software program to provide DOES with a complete system for data generation, analysis, and management.

## D. SYSTEM DESIGN

In designing the software, DOES has some specific criteria that must be met. First, DOES currently has only batch

processing available. Thus the program cannot be interactive. Secondly, DOES requires that the program be written in FORTRAN because of the availability of the FORTRAN compiler. Since DOES will use SPSS in batch mode, any data files generated by the program must be compatible with the SPSS format. Finally, DOES has varying needs in regard to report formats and other data management. Thus, it is difficult, if not impossible to anticipate every need in order to code every report format in the program itself. This leads to the necessity of introducing data management and organization through a data base management system. Therefore, the file definitions and query language of the QLP 1100 system must be developed in conjunction with DOES' needs.

In summary, the information system must be comprised of a FORTRAN program that inputs data, computes the necessary ASVAB scores, and generates data to be stored in a file. The files must be structured so that they provide immediate, useful information to DOES. In addition, the files must be in a form that allows integration into both SPSS for statistical analysis and QLP 1100 for data management. This design will provide DOES with both the flexibility to generate the required information in the appropriate format and provide linkages to powerful analytic packages.

Chapter I, "Introduction," has discussed one of the problems faced by DOES. In addition, it has examined the feasibility of a computer-based management information system.

Finally, the chapter has identified the user's performance specifications for the information system. Chapter II, "Systems Manual," examines the manual system in detail. It provides several examples and is designed to familiarize readers with the current system. Chapter III, "User's Manual," explains the computer program using nontechnical language. It is designed to provide the reader with a conceptual development of the computer program. Chapter IV, "The SPSS and QLP 1100 System," explains how the FORTRAN program is integrated with the SPSS program and the QLP 1100 system. Chapter V, "Conclusions," explains how the information system and its use may be expanded.

## II. SYSTEMS MANUAL

### A. PURPOSE

The purpose of this chapter is to provide an understanding of how the current manual system works. This is important because the procedures used in the computerized system are virtually the same.

### B. INTRODUCTION

The Armed Services Vocational Aptitude Battery has six test versions that can be grouped into three different test formats. The first group is comprised of ASVAB 5. The second group is comprised of ASVAB 6 and ASVAB 7. The last group is comprised of ASVAB 8, ASVAB 9 and ASVAB 10.

The manual process used by DOES is shown in Figure 1. The input data are stored on pre-punched computer cards (see Appendix A). This data stream is decoded using the key shown in Table 1.

Once the data are decoded, they can be checked for input errors. This is important because DOES does not enter the data onto the cards, and must confirm that they are correct. Next the raw scores are converted to standard scores. This is done so that scores can be compared between test versions. Composite scores are then computed, and subsequently normalized so that they can also be compared between test

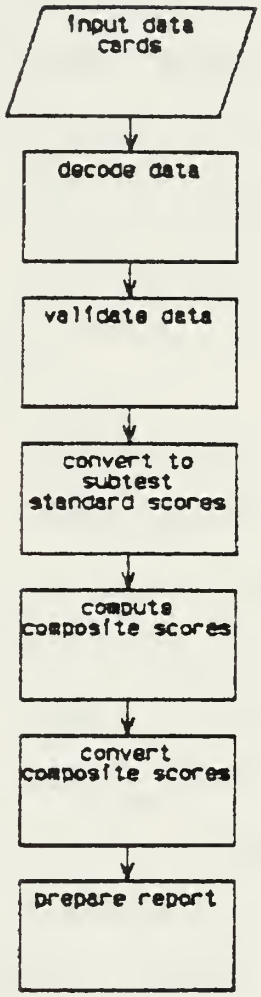


Figure 1. ASVAB Manual Process

TABLE 1

INPUT DATA KEY

| COLUMNS | DESCRIPTION |
|---|---|
| 1-9 | Social Security Account Number |
| 10-15 | Date of Birth (YY/MM/DD) |
| 16 | Sex: 1-Male, 2-Female |
| 17 | Race: 1-White, 2-Black, 3-Other |
| 18-23 | Date of Entry (YY/MM/DD) |
| 24-25 | Highest Year of Education: |
| | 01 1-7 Years |
| | 02 8 Years |
| | 03 1 Year of High School |
| | 04 2 Years of High School |
| | 05 3-4 Years of High School |
| | 06 High School Diploma |
| | 07 1 Year of College |
| | 08 2 Years of College |
| | 09 3-4 Years of College |
| | 10 College Graduate |
| | 11 Master's Degree |
| | 12 Doctor's Degree |
| | 13 High School GED |
| 26-27 | Entry Pay Grade: |
| | 01 E1 |
| | 02 E2 |
| | 03 E3 |

TABLE 1 (CONT.)

| | | |
|---|---|---|
| | 04 | E4 |
| | 05 | E5 |
| | 06 | E6 |
| | 07 | E7 |
| | 08 | E8 |
| | 09 | E9 |
| 28-32 | Military Occupation Specialty | |
| 33-34 | Test Form: | |
| | 35 | ASVAB 5. |
| | 36 | ASVAB 6. |
| | 37 | ASVAB 7. |
| | 38 | ASVAB 8. |
| | 39 | ASVAB 9. |
| | 40 | ASVAB 10. |
| 35-36 | AFQT Percentile | |
| 37-68 | Subtest Raw Scores: | |

| | ASVAB 5 | ASVAB 6/7 | ASVAB 8/9/10 |
|---|---|---|---|
| 37-38 | GI | GI | GS |
| 39-40 | NO | NO | AR |
| 41-42 | AD | AD | WK |
| 43-44 | WK | WK | PC |
| 45-46 | AR | AR | NO |
| 47-48 | SP | SP | CS |
| 49-50 | MK | MK | AS |
| 51-52 | EI | EI | MK |
| 53-54 | MC | MC | MC |
| 55-56 | GS | GS | EI |

TABLE 1 (CONT.)

| | | | |
|---|---|---|---|
| 57-58 | SI | SI | VE |
| 59-60 | AI | AI | BLANK |
| 61-62 | BLANK | MC | BLANK |
| 63-64 | BLANK | CA | BLANK |
| 65-66 | BLANK | CE | BLANK |
| 67-68 | BLANK | CC | BLANK |
| 71-73 | SEPARATION PROGRAM DESIGNATOR. | | |
| 74-79 | DATE OF SEPARATION. | | |

versions. Finally, the data are written down in a format that is conducive to further analysis. This process is done for each data card. A typical session could involve 100 to 300 data cards depending on the size of the training group. Also the frequency of this process depends on the number of training cycles being run by the Infantry School.

C. THE ASVAB 5 PROCEDURE

In order to process an ASVAB 5 record, the data record is first decoded using Table 1. The first data record in Appendix A is provided as a typical ASVAB 5 data card. The number 35 located in columns 33 and 34 indicates that ASVAB 5 is in effect. The scores located in columns 37 through 68 can be identified and assigned to specific tests. This assignment is shown in Table 2.

Since ASVAB 5 is in effect, these raw scores must be converted into subtest standard scores. The ASVAB 5/6/7 subtest standard score conversion table is used to convert the scores (see Appendix B). The table is entered by finding the raw score in the left hand column, then moving right to find the test name and the appropriate converted score. For example, to convert GI enter the raw score column at 15, move to the right and find the column for GI and read off the standard score of 66. Proceeding in this manner, all subtest raw scores are converted as shown in Table 3.

The Army Classification Battery (ACB) uses subtest standard scores to compute the equations shown in Table 4.

TABLE 2

ASVAB 5 RAW SCORE ASSIGNMENT

| SUBTEST (Variable Name) | SCORE (Data Point) |
|---|---|
| GI | 15 |
| NO | 20 |
| AD | 03 |
| WK | 12 |
| AR | 06 |
| SP | 17 |
| MK | 20 |
| EI | 10 |
| MC | 09 |
| GS | 05 |
| SI | 13 |
| AI | 12 |

TABLE 3

SUBTEST SCORE CONVERSIONS

| RAW SCORE | SUBTEST | STANDARD SCORE |
|---|---|---|
| 15 | GI | 66 |
| 20 | NO | 39 |
| 03 | AD | 21 |
| 12 | WK | 39 |
| 06 | AR | 36 |
| 17 | SP | 59 |
| 20 | MK | 67 |
| 10 | EI | 34 |
| 09 | MC | 46 |
| 05 | GS | 36 |
| 13 | SI | 48 |
| 12 | AI | 50 |

TABLE 4

ASVAB 5 ACB EQUATIONS

| EQUATION | SCORE |
|---|---|
| CO = AR + SI + SP + AD | 164 |
| FA = AR + GI + MK + EI | 203 |
| MM = MK + SI + EI + AI | 199 |
| GM = AR + GS + MC + AI | 168 |
| CL = AR + WK + AD | 96 |
| GT = AR + WK | 75 |
| EL = AR + EI + NC + SI | 164 |
| SC = AR + WK + MC + SP | 180 |
| ST = AR + MK + GS | 139 |
| OF = GI + AI | 116 |

The final step is to convert the ACB scores to standardized scores using the ASVAB 5 composite conversion table (see Appendix D). The table is used exactly as the ASVAB 5 subtest standard score conversion table to give the final composite scores shown in Table 5.

TABLE 5

ASVAB 5 ACB COMPOSITE SCORES

| ACB SCORE | CLASSIFICATION | COMPOSITE SCORE |
|---|---|---|
| 164 | CO | 71 |
| 203 | FA | 102 |
| 199 | MM | 99 |
| 168 | GM | 79 |
| 96 | CL | 49 |
| 75 | GT | 71 |
| 164 | EL | 76 |
| 180 | SC | 89 |
| 139 | ST | 94 |
| 116 | OF | 116 |

With the calculations completed, the soldier file can be constructed using the results of the calculations and the initial data record. The soldier file for the example data record is shown below.

SSAN: 272598843

DATE OF BIRTH(YY/MM/DD): 64/4/20

SEX: MALE

RACE: BLACK

DATE OF ENTRY(YY/MM/DD): 82/2/16

HIGHEST YEAR OF EDUCATION: 1 YEAR OF HIGH SCHOOL

ENTRY PAY GRADE: E1

MOS: 11B10

TEST FORM: ASVAB 5

AFQT PERCENTILE: 35

SEPARATION PROGRAM DESIGNATOR: AKL

DATE OF SEPARATION(YY/MM/DD) 83/2/27

SUBTEST RAW SCORES

| GI | NO | AD | WK | AR | SP | MK | EI | MC | GS | SI | AI |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 | 20 | 03 | 12 | 06 | 17 | 20 | 10 | 09 | 05 | 13 | 12 |

SUBTEST STANDARD SCORES

| GI | NO | AD | WK | AR | SP | MK | EI | MC | GS | SI | AI |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 66 | 39 | 21 | 39 | 36 | 59 | 67 | 34 | 46 | 36 | 48 | 50 |

ARMY CLASSIFICATION BATTERY

| CO | FA | MM | GM | CL | GT | EL | SC | ST | OF |
|---|---|---|---|---|---|---|---|---|---|
| 71 | 102 | 99 | 79 | 49 | 71 | 76 | 89 | 94 | 116 |

D. THE ASVAB 6 AND ASVAB 7 PROCEDURE

The procedures for ASVAB 6 and ASVAB 7 are the same. However, these procedures differ significantly from the ASVAB

5 procedures. The first difference is that, in addition to the twelve raw scores used in ASVAB 5, four additional scores, CM, CA, CE, and CC are also used. The second difference is that the subtest raw scores are not converted to standard scores for the purpose of computing composites as they were in the ASVAB 5 procedure. They are converted for comparison with scores from other test versions. Finally, the set of equations used to compute the ACB composites are different. A typical input data record for ASVAB 6 or ASVAB 7 is provided as the second data record in Appendix A.

Since there is no need to convert the subtest raw scores, the procedure begins with the computation of the ACB composites. First, the data in columns 33 and 34 are checked to confirm that ASVAB 6 or ASVAB 7 is in effect. Using the sample input data record columns 33 and 34 have the value 36 as a data point confirming ASVAB 6. The data in columns 37 through 68 are extracted and assigned to the appropriate subtests as shown in Table 6.

Since raw scores are used, the ACB composites are immediately computed as shown in Table 7.

The final step is to convert the ACB scores to standardized scores using the ASVAB 6/7 composite conversion table (see Appendix E) as shown in Table 8.

With the conversion of the ACB scores to standard composite scores a soldier file can be constructed. However, one additional step is done. As shown above, the raw subtest

TABLE 6

ASVAB 6/7 RAW SCORE ASSIGNMENT

| SUBTEST (Variable Name) | SCORE (Data Point) |
|---|---|
| GI | 13 |
| NO | 40 |
| AD | 25 |
| WK | 22 |
| AR | 15 |
| SP | 16 |
| MK | 12 |
| EI | 23 |
| MC | 10 |
| GS | 09 |
| SI | 17 |
| AI | 14 |
| CM | 08 |
| CA | 12 |
| CE | 13 |
| CC | 22 |

TABLE 7

ASVAB 6/7 ACB EQUATIONS

| EQUATION | SCORE |
|---|---|
| CO = AR + SI + SP + AD + CC | 95 |
| FA = AR + GI + MK + EI + CA | 75 |
| MM = MK + SI + EI + AI + CM | 74 |
| GM = AR + GS + MC + AI | 48 |
| CL = AR + WK + AD + CA | 74 |
| GT = AR + WK | 37 |
| EL = AR + EI + MC + ST + CE | 78 |
| SC = AR + WK + MC + SP | 63 |
| ST = AR + MK + GS | 36 |
| OF = GI + AI + CA | 39 |

TABLE 8

ASVAB 6/7 ACB COMPOSITE SCORES

| ACB SCORE | CLASSIFICATION | STANDARD SCORE |
|---|---|---|
| 95 | CO | 125 |
| 75 | FA | 115 |
| 74 | MM | 106 |
| 48 | GM | 103 |
| 74 | CL | 122 |
| 37 | GT | 109 |
| 78 | EL | 114 |
| 63 | SC | 108 |
| 36 | ST | 104 |
| 39 | OF | 115 |

scores are used in computing the ACB scores. These raw scores cannot be compared to the standardized scores in other test versions. Because of this, the raw scores are converted using the ASVAB 5/6/7 standard score conversion table (see Appendix B).

The input data record and the ACB computations are used to create the soldier file.

SSAN: 016532241

DATE OF BIRTH(YY/MM/DD): 63/11/25

SEX: MALE

RACE: WHITE

DATE OF ENTRY(YY/MM/DD): 81/9/20

HIGHEST YEAR OF EDUCATION: HIGH SCHOOL DIPLOMA

ENTRY PAY GRADE: E1

MOS: 11B10

TEST FORM: ASVAB 6

AFQT PERCENTILE: 87

SEPARATION PROGRAM DESIGNATOR: AAA

DATE OF SEPARATION(YY/MM/DD): 82/11/9

SUBTEST RAW SCORES

| GI | NO | AD | WK | AR | SP | MK | EI | MC | GS | SI | AI | CM | CA | CE | CC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 | 40 | 25 | 22 | 15 | 16 | 12 | 23 | 10 | 09 | 17 | 14 | 08 | 12 | 13 | 22 |

SUBTEST STANDARD SCORES

| GI | NO | AD | WK | AR | SP | MK | EI | MC | GS | SI | AI | CM | CA | CE | CC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 60 | 59 | 77 | 53 | 55 | 57 | 51 | 56 | 48 | 45 | 58 | 55 | - | - | - | - |

ARMY CLASSIFICATION BATTERY

| CO | FA | MM | GM | CL | GT | EL | SC | ST | OF |
|---|---|---|---|---|---|---|---|---|---|
| 125 | 115 | 106 | 103 | 122 | 109 | 114 | 108 | 104 | 115 |

E. ASVAB 8, ASVAB 9, AND ASVAB 10 PROCEDURE

The procedure for ASVAB 8, ASVAB 9, and ASVAB 10 is generally the same as ASVAB 5. The subtest raw scores are converted to subtest standard scores. The converted scores are used to compute the ACB composite scores. Finally, the ACB scores are standardized. The difference between ASVAB 8, ASVAB 9, and ASVAB 10, and all other ASVAB versions is that a different set of tests are used to generate the raw scores. Because of this, different conversion tables are used, as well as a different set of equations for the computation of the ACB scores. A typical input data record for ASVAB 8, ASVAB 9, or ASVAB 10 is provided as the third data card in Appendix A.

First, columns 33 and 34 are checked to insure that either ASVAB 8, ASVAB 9, or ASVAB 10 is in effect. The data point 40 confirms that ASVAB 10 is in effect. The raw scores in columns 37 through 58 are extracted and assigned to their appropriate subtest variable. The raw scores are then standardized using the ASVAB 8/9/10 subtest standard score conversion table (see Appendix C) as shown in Table 9.

The subtest standard scores are then used to compute the ACB scores as shown in Table 10.

TABLE 9

ASVAB 8/9/10 SUBTEST SCORE CONVERSIONS

| RAW SCORE (Data Point) | SUBTEST (Variable Name) | STANDARD SCORE |
|---|---|---|
| 24 | GS | 65 |
| 22 | AR | 56 |
| 30 | WK | 56 |
| 14 | PC | 60 |
| 45 | NO | 59 |
| 79 | CS | 72 |
| 25 | AS | 65 |
| 20 | MK | 63 |
| 24 | MC | 65 |
| 19 | EI | 65 |
| 48 | VE | 61 |

TABLE 10

ASVAB 8/9/10 ACB EQUATIONS

| EQUATION | SCORE |
|---|---|
| CO = AR + AS + MC + CS | 258 |
| FA = AR + MK + MC + CS | 256 |
| MM = NO + EI + MC + AS | 254 |
| GM = MK + EI + GS + AS | 258 |
| CL = NO + CS + VE | 192 |
| GT = VE + AR | 117 |
| EL = AR + EI + MK + GS | 249 |
| SC = NO + CS + VE + AS | 257 |
| ST = VE + MK + MC + GS | 254 |
| OF = NO + VE + MC + AS | 250 |

Finally, once the ACB scores are computed, the scores are standardized using the ASVAB 8/9/10 composite conversion table (see Appendix F) as shown in Table 11.

TABLE 11

ASVAB 8/9/10 ACB COMPOSITE SCORES

| ACB SCORE | CLASSIFICATION | STANDARD SCORE |
|---|---|---|
| 258 | CO | 138 |
| 256 | FA | 128 |
| 254 | MM | 138 |
| 258 | GM | 132 |
| 192 | CL | 133 |
| 117 | GT | 117 |
| 249 | EL | 124 |
| 257 | SC | 144 |
| 254 | ST | 128 |
| 250 | OF | 135 |

The input data record and the ACB computations are used to generate the following soldier file.

SSAN: 213865527

DATE OF BIRTH(YY/MM/DD): 630521

SEX: FEMALE

RACE: OTHER

DATE OF ENTRY(YY/MM/DD): 821007

HIGHEST YEAR OF EDUCATION: 1 YEAR OF COLLEGE

ENTRY PAY GRADE: E2

MOS: 54E10

TEST FORM: ASVB 10

AFQT PERCENTILE: 92

SUBTEST RAW SCORES

| GS | AR | WK | PC | NO | CS | AS | MK | MC | EI | VE |
|---|---|---|---|---|---|---|---|---|---|---|
| 24 | 22 | 30 | 14 | 45 | 79 | 25 | 20 | 24 | 19 | 48 |

SUBTEST STANDARD SCORES

| GS | AR | WK | PC | NO | CS | AS | MK | MC | EI | VE |
|---|---|---|---|---|---|---|---|---|---|---|
| 65 | 56 | 56 | 60 | 59 | 72 | 65 | 63 | 65 | 65 | 61 |

ARMY CLASSIFICATION BATTERY

| CO | FA | MM | GM | CL | GT | EL | SC | ST | OF |
|---|---|---|---|---|---|---|---|---|---|
| 138 | 128 | 138 | 132 | 133 | 117 | 124 | 144 | 128 | 135 |

This process continues until all the input data records are processed into soldier records.

# III. USER'S MANUAL

## A. PURPOSE

The purpose of this chapter is to provide the user of the Armed Services Vocational Aptitude Battery Management Information System (ASVABMIS) with a manual that explains the functioning of the ASVAB program. The language is non-technical, yet specific enough to allow a thorough understanding or how ASVAB works.

## B. INTRODUCTION

The relationship between ASVAB and its input file and output files is shown in Figure 2. Figure 2 shows that separate input data cards are combined into one input data file. The input data file is processed by ASVAB, and four output files called the soldier file, the raw score summary file, the standard score summary file, and the composite score summary file result.

## C. THE INPUT FILES

In order to create the input data file the user must simply read into file 04 input data, the stack of input computer cards. No special preparation is necessary, and this must be done for each different set of input cards. The data cards containing the conversion tables must be read into file and permanently stored when ASVAB is installed.

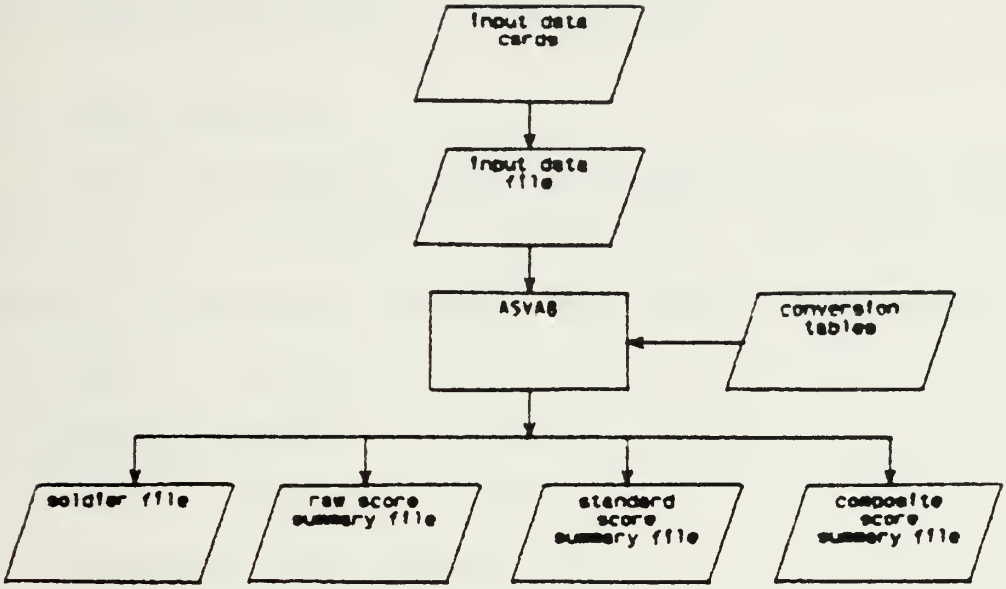


Figure 2. Relationship Between ASVAB Program and Input/Output Files

The stack of cards containing the conversion tables for ASVAB 5, ASVAB 6/7, and ASVAB 8/9/10 are read into File 01, File 02, and File 03 respectively.

D. THE ALGORITHM

The development of the system began with the determination of what ASVAB had to accomplish. This was done by studying the manual system. The initial algorithm was developed as shown below.

```
ALGORITHM ASVAB
    READ IN CONVERSION TABLES
    ALGORITHM INPUT SOLDIER DATA
        READ IN INPUT DATA
    END ALGORITHM INPUT SOLDIER DATA

    ALGORITHM VALIDATE SOLDIER DATA
        CHECK FOR DATA INTEGRITY
    END ALGORITHM VALIDATE SOLDIER DATA

    ALGORITHM OUTPUT SOLDIER DATA
        PRINT THE INPUT DATA AS PART OF THE SOLDIER FILE
    END ALGORITHM OUTPUT SOLDIER DATA

    ALGORITHM SUBTEST STANDARD SCORES
        CONVERT RAW SCORES TO SUBTEST STANDARD SCORES
    END ALGORITHM SUBTEST STANDARD SCORES

    ALGORITHM APTITUDE AREA COMPOSITES
        COMPUTE ACB COMPOSITES
    END ALGORITHM APTITUDE AREA COMPOSITES
```

ALGORITHM ACB

CONVERT ACB COMPOSITES

END ALGORITHM ACB

ALGORITHM OUTPUT SCORES

PRINT SUBTEST STANDARD SCORES AND ACB SCORES

END ALGORITHM OUTPUT SCORES

END ALGORITHM ASVAB

The relationship between the algorithms is shown in Figure 3.

1. Algorithm ASVAB

This algorithm defines the variables that are used in ASVAB. It also reads in the conversion tables, and terminates processing when the last data card has been read.

2. Algorithm Input Soldier Data

This algorithm reads in the data from File 04 input data. The process is shown in Figure 4. Figure 3 shows that once file 04, Input Data, is read in, a decision logic is used to assign the raw scores to their proper variable names.

3. Algorithm Validate Soldier Data

This algorithm provides a rudimentary input data validation by making range checks on the data according to Table 12. If the value of a variable is outside the range shown in Table 12, an error message is printed. In general, the error statements identify the record that has

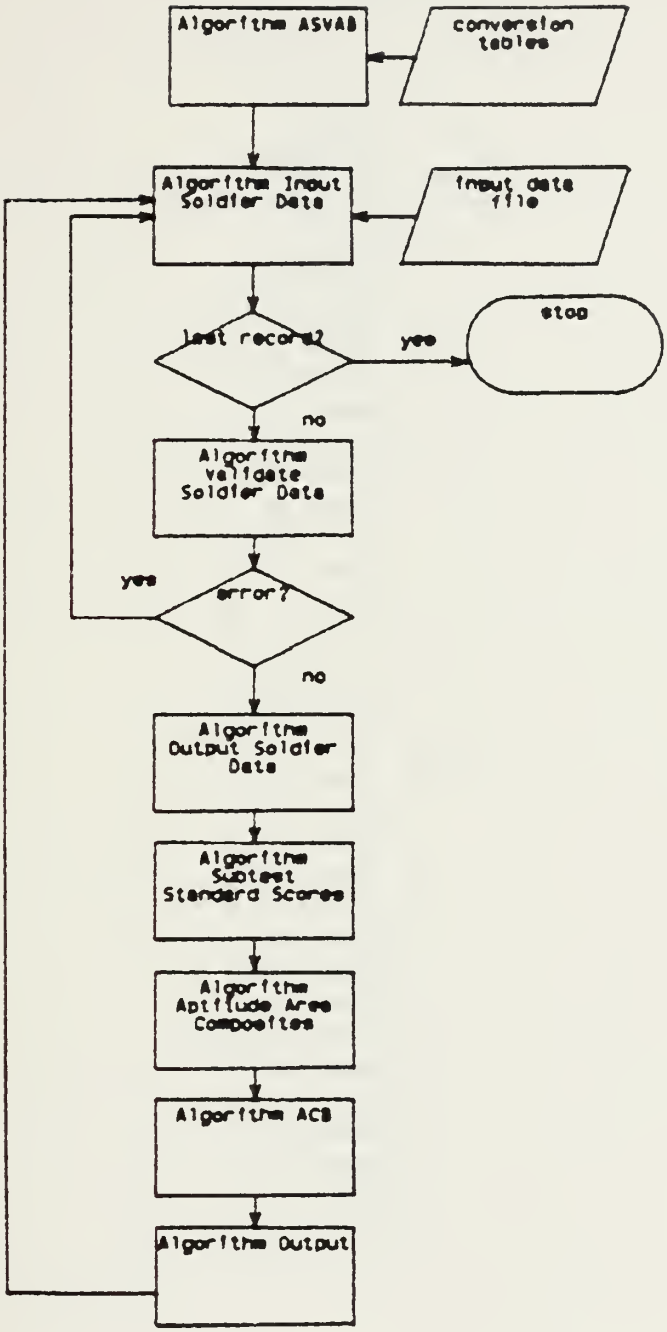


Figure 3. ASVAB Program Flow Chart

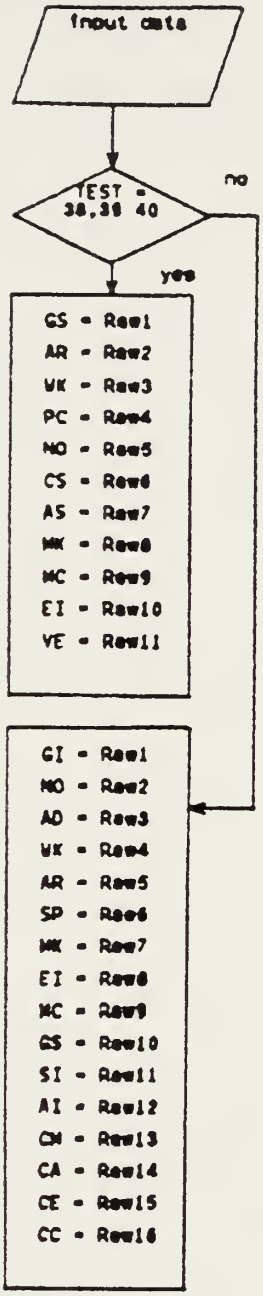


Figure 4. Algorithm Input Soldier Data Flow Chart

TABLE 12

DATA INTEGRITY TABLE

| ITEM | MIN. VALUE | MAX. VALUE |
|---|---|---|
| MONTH (MM) | 1 | 12 |
| DAY (DD) | 1 | 31 |
| SEX | 1 | 2 |
| RACE | 1 | 3 |
| ED | 1 | 13 |
| TEST | 35 | 40 |
| ASVAB 5/6/7 | | |
| GI | 0 | 15 |
| NO | 0 | 30 |
| AD | 0 | 30 |
| WK | 0 | 20 |
| AR | 0 | 20 |
| SP | 0 | 20 |
| MK | 0 | 20 |
| EI | 0 | 30 |
| MC | 0 | 20 |
| GS | 0 | 20 |
| SI | 0 | 20 |
| AI | 0 | 20 |
| CM | 0 | 20 |
| CA | 0 | 20 |
| CE | 0 | 20 |
| CC | 0 | 27 |

TABLE 12 (CONT.)

| ITEM | MIN. VALUE | MAX. VALUE |
|---|---|---|
| ASVAB 8/9/10 | | |
| GS | 0 | 25 |
| AR | 0 | 30 |
| WK | 0 | 35 |
| PC | 0 | 15 |
| NO | 0 | 50 |
| CS | 0 | 84 |
| AS | 0 | 25 |
| MK | 0 | 25 |
| MC | 0 | 25 |
| EI | 0 | 25 |
| VE | 0 | 50 |

the error by record number, the social security number, the incorrect variable and its column position in the record. Processing of that record is terminated and processing of a new record is begun.

4. Algorithm Output Soldier Data

This algorithm simply prints the input data. This output is provided for two reasons. First, it provides some of the information required by the user in an understandable form. Second, since the data is echoed, error messages can be confirmed. The algorithm provides the information as shown below.

| | | |
|---|---|---|
| SSAN | : | 014560821 |
| DATE OF BIRTH(YY/MM/DD) | : | 64/4/20 |
| SEX | : | 1-MALE |
| RACE | : | 2-BLACK |
| DATE OF ENTRY(YY/MM/DD) | : | 82/2/16 |
| HIGHEST YEAR OF EDUCATION | : | 1 YEAR OF HIGH SCHOOL--03 |
| ENTRY PAY GRADE: 01-E1 | : | 01-E1 |
| MOS | : | 11B10 |
| TEST FORM | : | 40-ASVAB 10 |
| AFQT PERCENTILE | : | 89 |
| SEPARATION PROGRAM DESIGNATOR: | | JHK |
| DATE OF SEPARATION(YY/MM/DD) | : | 83/5/25 |

SUBTEST RAW SCORES

| GS | AR | WK | PC | NO | CS | AS | MK | MC | EI | VE |
|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 15 | 10 | 05 | 35 | 60 | 10 | 20 | 13 | 06 | 35 |

5. Algorithm Subtest Standard Scores

This algorithm converts the subtest raw scores into subtest standard scores. Instead of using the conversion tables to convert the raw scores, the standard scores are computed directly using the equation

$$SSS = [10 \times \frac{(RAW\ SCORE - \bar{X})}{\sigma}] + 50$$

The raw scores are read from input data. The expected value and the standard deviation for each subtest and ASVAB version have been calculated previously and are provided in the ASVAB program. Since the conversions must be done repeatedly, a function is used to calculate the conversions. This algorithm merely invokes the function for each subtest.

For example, if ASVAB 5 is in effect, to convert a raw score of 10 for GI the function is invoked by GISSS = CONVT(GI,XBAR,SIGMA). An actual computation is given below.

$$GISSS = CONVT(10,9.656,3.273)$$

$$GISSS = [10 \times \frac{(10 - 9.656)}{3.273}] + 50$$

$$GISSS = 51.05$$

The function rounds down to the nearest integer if the decimal value is less than 0.50, and rounds up if the decimal value

is greater than or equal to 0.50. Since 0.05 is less than 0.50, GISSS = 51. This is the same value obtained using the conversion tables. This method is more efficient and requires less storage than the conversion table method. A decision table is used to determine which ASVAB version is in effect so that the correct raw scores, expected values, and standard deviations are used.

6. Algorithm Aptitude Area Composites

This algorithm uses the appropriately converted subtest scores from the previous algorithm to compute the Army Aptitude Composites. A decision table based on the value of TEST is used to determine which set of equations will be used. The equations for ASVAB 5, ASVAB 6/7, and ASVAB 8/9/10 are given in Tables 4, 7, and 10 respectively. This process is shown in Figure 5.

7. Algorithm ACB

This algorithm converts the scores computed in the previous algorithm into standard scores that comprise the Army Classification Battery. The process used is the table look-up process used in the manual system.

The computer stores in memory the conversion tables for ASVAB 5, ASVAB 6/7, and ASVAB 8/9/10. The three tables are stored as m×n matrices called A5, A67, and A8910, respectively. The variable m corresponds to the maximum number of rows in the matrix. Therefore, the maximum value of m must equal the maximum raw score possible. The variable n

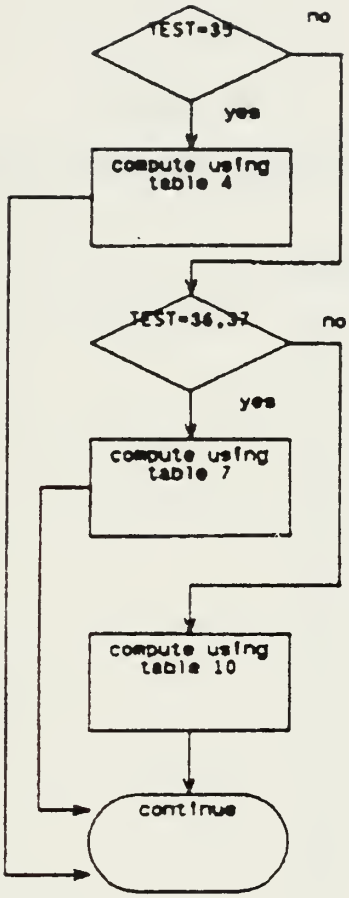


Figure 5. Algorithm Aptitude Area Composites Flow Chart

corresponds to the maximum number of columns in the matrix. Therefore, the maximum value of n must be 10 since there are 10 different scores to be converted. Table 13 shows the column assignments.

TABLE 13

MATRIX COLUMN ASSIGNMENTS

| n | SCORE |
|---|---|
| 1 | GT |
| 2 | GM |
| 3 | EL |
| 4 | CL |
| 5 | MM |
| 6 | SC |
| 7 | CO |
| 8 | FA |
| 9 | OF |
| 10 | ST |

For example, if the value of TEST is 38, 39, or 40 then ASVAB 8, 9, or 10 respectively is in effect. The algorithm makes the following assignments:

```
GT = A8910(GT,1)
GM = A8910(GM,2)
EL = A8910(EL,3)
CL = A8910(CL,4)
```

MM = A8910(MM,5)

SC = A8910(SC,6)

CO = A8910(C),7)

FA = A8910(FA,8)

OF = A8910(OF,9)

ST = A8910(ST,10)

The same procedure is used for ASVAB 5, and ASVAB 6/7, except that matrices A5 and A67 are used respectively.

8. Algorithm Output Scores

The purpose of this algorithm is to print the subtest standard scores, and the converted ACB composite scores. The algorithm output soldier data printed the following information:

| | | |
|---|---|---|
| SSAN | : | 014560821 |
| DATE OF BIRTH(YY/MM/DD) | : | 64/4/20 |
| SEX | : | 1-MALE |
| RACE | : | 2-BLACK |
| DATE OF ENTRY(YY/MM/DD) | : | 82/2/16 |
| HIGHEST YEAR OF EDUCATION | : | 1 YEAR OF HIGH SCHOOL-03 |
| ENTRY PAY GRADE | : | 01-E1 |
| MOS | : | 11B10 |
| TEST FORM - ASVAB 10 | : | 40-ASVAB 10 |
| AFQT PERCENTILE | : | 89 |
| SEPARATION PROGRAM DESIGNATOR | : | JHK |
| DATE OF SEPARATION(YY/MM/DD) | : | 83/5/25 |

SUBTEST RAW SCORES

| GS | AR | WK | PC | NO | CS | AS | MK | MC | EI | VE |
|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 15 | 10 | 05 | 35 | 60 | 10 | 20 | 13 | 06 | 35 |

This algorithm adds the following lines giving the final soldier file.

SUBTEST STANDARD SCORES

| GS | AR | WK | PC | NO | CS | AS | MK | MC | EI | VE |
|---|---|---|---|---|---|---|---|---|---|---|
| 57 | 46 | 30 | 34 | 49 | 60 | 39 | 63 | 45 | 35 | 49 |

ARMY CLASSIFICATION BATTERY

| CO | FA | MM | GM | CL | GT | EL | SC | ST | OF |
|---|---|---|---|---|---|---|---|---|---|
| 93 | 108 | 78 | 95 | 102 | 93 | 101 | 94 | 107 | 86 |

In addition, the subtest raw scores, the subtest standard scores, and the ACB composite scores are each printed in a separate summary file.

E. THE OUTPUT FILES

ASVAB generates four output files. The soldier file is stored in File 9. The soldier file is the most important file and should be printed immediately by the user (see Appendix G). Invalid input data cards will be identified by error messages in the file. This allows the user to make corrections to input data.

In addition three summary files are generated (see Appendix G). A summary of the standard scores, the raw

scores, and the composite scores are stored in Files 10, 11 and 12 respectively. The summary files do not contain any information that is not already contained in the soldier file. The summary files are not generated to provide information in paper copy form, but are generated in tabular form to provide input into SPSS and QLP 1100.

# IV. SPSS AND QLP 1100

## A. PURPOSE

The purpose of this chapter is to examine the relationship between ASVAB, the SPSS package, and the QLP 1100 system.

## B. INTRODUCTION

ASVAB was designed to generate data quickly. Therefore, ASVAB alone will save the user a considerable amount of time. However, ASVAB has no analytic capability, and only limited data management capabilities. Once ASVAB is implemented, the user may find many applications which use the data in analysis and data management.

The analysis of the ASVAB data may prove to be prohibitive if a computer package is not used. For example, the computation of the mean and standard deviation of a set of composite scores is simple in concept. However in practice, given a sample size of 100 or more, the process becomes extremely time consuming if done manually. Other analysis such as analysis of variance, or regression analysis is almost impossible to do efficiently without computer assistance. Therefore, it is imperative that ASVAB output be linked to the SPSS package.

The analysis done by DOES is not strictly for internal use, but usually arises from external requests. In regard to this, the information provided in the ASVAB output files

may not be sufficient or appropriate to satisfy external requirements. In addition, DOES may be required to submit various reports to the external agencies. A manual process of coding new ASVAB output formats, and typing reports is an inefficient use of time and personnel. This type of data management can be better done using the QLP 1100 system. Once again, the volume of potential, external requests demands that the QLP 1100 system be integrated with ASVAB.

C. SPSS

The user may be required to use various statistical methods on the data generated by ASVAB. SPSS is a comprehensive package that can be used to accomplish this. An SPSS program consists of specific keywords that are used to generate the analysis, as well as the data to be analyzed. The relationship between ASVAB and the SPSS program is shown in Figure 6.

One area for which the user may require SPSS is regression analysis. DOES is responsible for developing selection criteria for attendance to special infantry training. Regression analysis may be used to develop a model for selection criteria. This model will be described in order to provide an example of how ASVAB output can be used with an SPSS program.

In this example, assume a number of soldiers are selected at random to attend a special course. Upon completion of

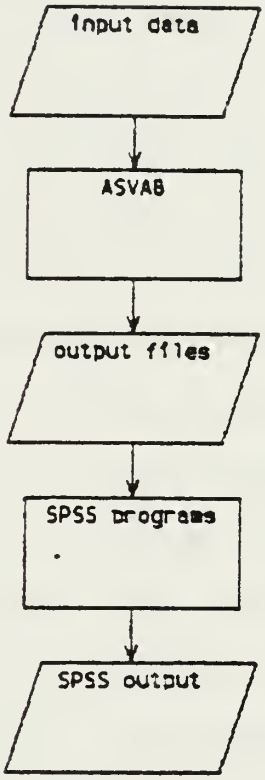


Figure 6. Relationship Between ASVAB and SPSS Programs

the course, the soldiers are administered the appropriate skill qualification test (SQT) to measure their ability to perform the tasks they were trained in. The results of the test are recorded along with the soldier's social security number. Regression analysis is used to develop a model that will predict SQT results as a function of some independent variables. In this example the 10 ACB composite scores are used to predict SQT results.

The user must process the input data cards in ASVAB. The soldier file should be printed in paper copy to check for entry errors. The SQT scores are entered in columns 11 through 15 of File 12, the composite summary. This may be done on disk from a terminal if available, or on the computer cards from the file if interactive processing is not available. The SPSS program is created on file or punched out on computer cards as appropriate. The new data are placed in the appropriate section of the file or deck (see Appendix H). The SPSS program generates all the necessary data to develop the model in final form (see Appendix J).

The R-square value is used to determine the percentage of variability in the SQT scores as explained by the variance in the ten composite scores. A high R-square value will mean that the ten composite scores are good predictors of SQT results. A low R-square value means that the ten composite scores should not be used as predictors. Further analysis such as checking for data points that are outliers, and

residual analysis is done before the model developed by the SPSS package is accepted.

Once the analysis is completed and the model is validated, the SQT model becomes the basis for further selections to the training. SPSS can be used to compute the predicted SQT results for potential attendees prior to their training. In this case, the input cards are processed in ASVAB. Since the soldiers have not attended the training, no SQT results are entered in File 12. An SPSS program is created to compute the predicted SQT results from the model developed earlier (see Appendix I). The SPSS output will contain the predicted SQT results which can be used to select soldiers with the highest potential for success (see Appendix K).

In many instances the selection requirements may be more complex than just predicted SQT scores. For example, the training may involve special infantry combat training. In this case only males with infantry military occupation specialties, and high predicted SQT result can attend. The user would have to manually cross reference the list of attendees based on SQT results, with the soldier file to insure that the additional requirements are met. Alternatively, an application specific computer program can be developed to do the cross referencing. However, the development time may be greater than the time needed to manually cross reference the data. In either case time is not being used effectively.

In general, ASVABMIS does not have the flexibility to provide information on an as-needed basis. In its present

form, ASVABMIS can only provide the information from its output files. A simple request for the number of black soldiers in the data pool requires additional programming, or a manual search.

In addition, ASVABMIS can not generate any reports. Once ASVAB and the SPSS package are used to generate and analyze data, any required reports must be manually created and typed.

In its present form, ASVABMIS is a rigid system unable to process requests for additional information without further programming. However, the QLP 1100 system provides a general program to handle additional requests that does not require additional programming.

D. QLP 1100

QLP 1100 provides a means to create a data base from the ASVAB output files. Since QLP 1100 is a COBOL-based system, the ASVAB output files must be converted to a COBOL format. The QLP 1100 system allows for both the conversion of FORTRAN files to COBOL files, and COBOL files to FORTRAN files.

QLP 1100 is not a true data base management system because many separate files are used, rather than a unique data base, to provide the data for manipulation. However, the end result appears the same. QLP 1100 creates a set of data that can be accessed by a query language.

In order to create the data set two steps are necessary. The first step is to define the physical and logical

structure of the files that will be used. The second step is to define an application for the files by specifying which files will be included, and how the files will be used. Once these steps are completed an environment in which QLP 1100 can operate is established. Finally, the QLP 1100 query language is used to query the files as if they were a data base in order to generate reports and to manipulate data.

Two separate processors and their respective commands are used to accomplish the steps in creating the data base. The file definition processor (FDP) accomplishes the first step by defining the physical and logical attributes of the data files to be accessed, through the use of the FDP source input. More specifically, the FDP defines the file assignment characteristics, the physical file organization specifications, the name and structure specification for all records contained in the file, and the name and attribute specifications for all data items in the records. The FDP produces an internally formatted file specification which is used as input to the application definition processor (ADP).

The ADP accomplishes the second step by specifying which files, as described by the FDP, will be used in the application, as well as how the files will be used through the use of the ADP source input. The ADP produces internally formatted tables which are used by the query language processor (QLP) as input. The QLP then produces the final output as

directed by the user through the use of the query language input. This process is depicted in Figure 7.

1. File Definition Processor Source Input

The FDP syntax contains two major subdivisions. The environment division names a file, and may specify other optional file information as deemed necessary by the user. The data division provides information about the physical structure, identification, and record name pertaining to a file. A simple FDP syntax containing the minimum required language is shown below. The line numbers are provided by the author for line identification, and are not a part of the syntax.

```
01        ENVIRONMENT DIVISION
02            SELECT file-name
03            ASSIGN TO DISK external-file-name
04        DATA DIVISION
05        FD file-name
06            LABEL RECORD IS STANDARD.
```

In this example, lines 01 and 04 specify the two subdivisions. Line 02 selects an existing file from storage by its name file-name. Line 03 allocates a storage medium which can either be disk or tape. The external file name is optional, and is the name under which the file will be stored. If the external file name is not specified, the new file will be stored using the first twelve characters of the selected file

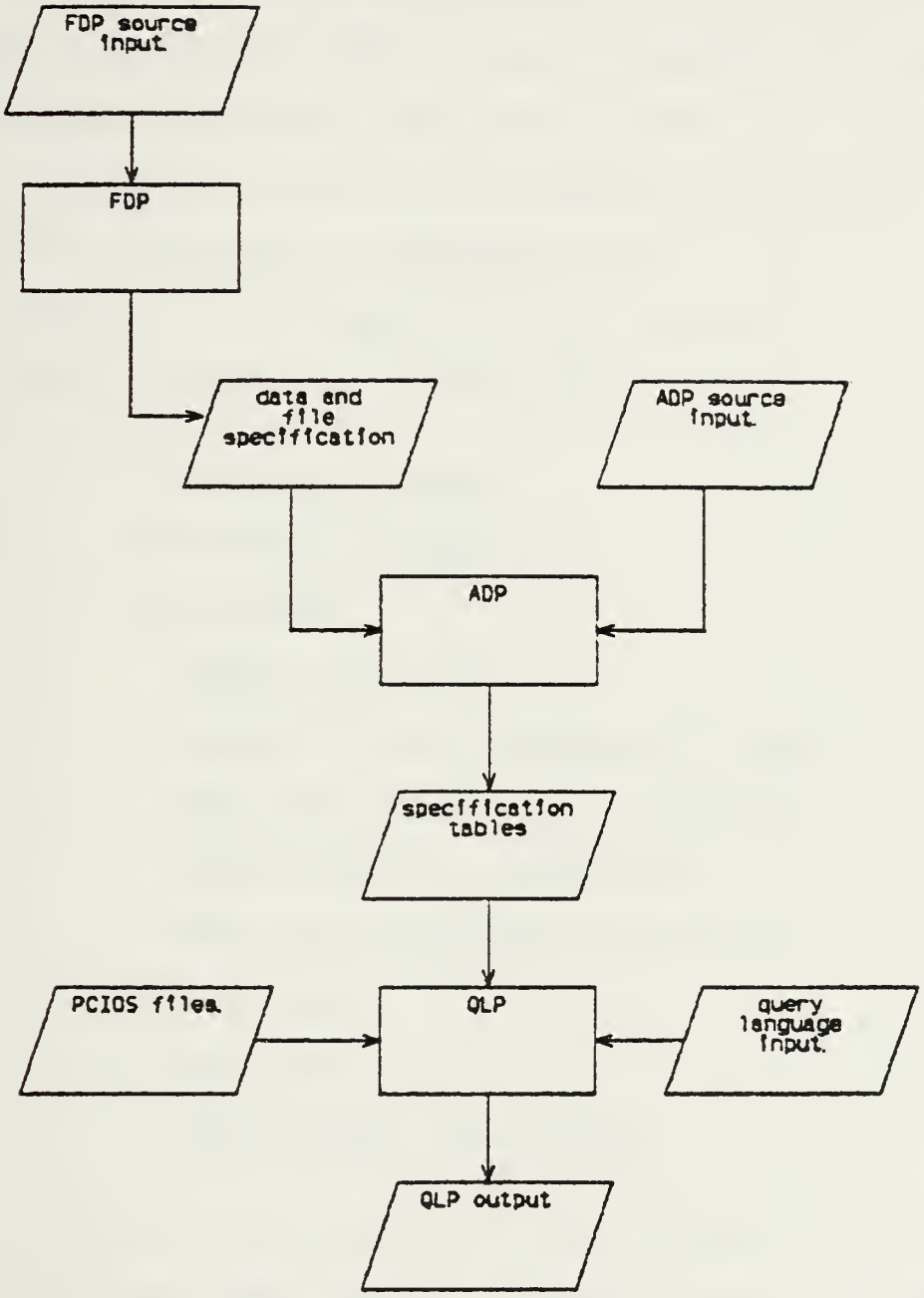


Figure 7. . The QLP 1100 System

name. Line 05 is a link between the two divisions. The file name in line 05 must match the file name in line 02. Line 06 specifies that explicit labels exist for the file. The user may also use LABEL RECORD IS OMITTED which specifies that no labels exist for the file. A label is a heading, and a label record is a record that contains file headings.

The FDP syntax may be expanded based on the type of file to be created. If the file is to be a sequential file the syntax may be expanded as shown below.

```
01        ENVIRONMENT DIVISION
02        INPUT-OUTPUT SECTION
03        FILE CONTROL
04            SELECT file-name
05            ASSIGN TO DISK external-file-name
06            FILE QUALIFIER IS qualifier-name
07            ORGANIZATION IS SEQUENTIAL
08            SORT KEY IS ASCENDING data-name
09        DATA DIVISION
11        FD file-name
10            LABEL RECORD IS STANDARD
```

In this example, lines 01, 04, 05, 09, 10 and 11 are unchanged from the previous basic syntax. Lines 02 and 03 are descriptive and add further clarity. Line 06 specifies a file qualifier that is used in the calling sequence when the FDP is invoked. Line 07 specifies that the file is to be

sequentially ordered. Line 08 specifies that the file will be sorted in an ascending order according to the values assigned to the key which is specified by the data name. For example, lines 07 and 08 could be used to sort a file in ascending order according to the social security account number by specifying:

```
ORGANIZATION IS SEQUENTIAL
SORT KEY IS ASCENDING SSAN
```

The user may also specify that the file be sorted in descending order by substituting DESCENDING for ASCENDING in line 08.

Similarly, the basic syntax may be expanded if the file is to be an indexed file rather than a sequential file. If the file is an indexed file the syntax may be expanded as shown below. In either case the user must decide which type of file is the most appropriate.

```
01      ENVIRONMENT DIVISION
02      INPUT-OUTPUT SECTION
03      FILE CONTROL
04          SELECT file-name
05          ASSIGN TO DISK external-file-name
06          FILE QUALIFIER IS qualifier-name
07          ORGANIZATION IS INDEXED
08          RECORD KEY IS data-name
09      DATA DIVISION
10      FD file-name
11          LABEL RECORD IS STANDARD
```

In this example, lines 01, 04, 05, 09, 10 and 11 are unchanged from the basic syntax. Lines 02, 03, and 06 have the same meaning as in the previous sequential example. Line 07 specifies that the file is random access rather than sequential. Line 08 specifies that a record can be identified by its key which has unique values, and is specified by the data name provided by the user. For example, since social security account numbers are unique they can be used to identify any record in a file.

Since the data division specifies the physical structure, identification, and record name of a file, the data division may be further specified with optional syntax if required. However, this syntax is normally used when default specifications are not appropriate. Some of the available optional syntax language is described below.

BLOCK CONTAINS integer-1 TO integer-2 RECORDS

This syntax specifies the block size in terms of the range of record numbers in the block.

DATA RECORD IS record-name-1

DATA RECORDS ARE record-name-1, record-name-2

This syntax is used when there is more than one record type in the file, and specifies the record selection by its name. More than one record type may be selected in multiple type files by listing the appropriate record names.

level number record-name

level number data-name PICTURE IS character string

This syntax further describes the selected data record. The level number specifies the hierarchy of the data. For example, a record has a higher hierarchy than a data element, and would therefore have a level number of 01, while all the data elements would have level numbers of 02.

The PICTURE syntax describes the general characteristics of the data element as defined by the character string. It is in effect a format statement. The character string is a combination of symbols comprised of A, S, V, X and 9. These symbols are shown in Table 14.

TABLE 14

PICTURE CHARACTERS

| CHARACTER | DESCRIPTION |
|---|---|
| A | A character position which can only contain a letter of the alphabet or a space. |
| S | A character position used to denote the presence of an operational sign, i.e., plus or minus. |
| V | A character position used to denote the location of a decimal point. |
| X | A character position which contains any allowable character from the computer's character set, i.e., $, /. |
| 9 | A character representing a numeral. |

An example of the picture clause is shown below.

```
01  RA
    02  RA1  PICTURE IS  9999
    02  RA2  PICTURE IS  S9V999
    02  RA3  PICTURE IS  AAAA
    02  RA4  PICTURE IS  A999
```

This example specifies that the record RA has the highest hierarchy. The record has four data elements specified as RA1, RA2, RA3 and RA4. Furthermore, the syntax specifies that RA1 is a numeric character made up of four numerals. This specification may also be shown in a shorter notation by using a 9(4) character string. RA2 is a signed numeric character having a decimal point following the first numeral, and three numeral decimal values. RA3 is an alphabetic character with four positions. It may optionally be specified by an A(4) character string. Finally, RA4 is an alphanumeric character specifying one alphabetical character followed by three numerals. Its optional specification could have been shown as A9(3).

Combining the previous examples, a complete FDP source input is shown below.

```
ENVIRONMENT DIVISON
INPUT-OUTPUT SECTION
FILE CONTROL
    SELECT file-name
    ASSIGN TO DISK external-file-name
```

```
        FILE QUALIFIER IS qualifier-name
        ORGANIZATION IS INDEXED
        RECORD KEY IS data-name-2
    DATA DIVISION
    FD file-name
        LABEL RECORD IS OMITTED
        BLOCK CONTAINS integer-1 to integer-2 RECORDS
        DATA RECORD IS record-name
    01 record-name
        02 data-name-1 PICTURE IS AAA
        02 data-name-2 PICTURE IS 999
```

In this example, the syntax specifies that a file called file-name will be taken from storage and assigned to disk storage under the name external-file-name. The file is assigned a qualifier name which is used in the FDP calling sequence when invoking the FDP. The file is an indexed file, and each record in the file can be identified by the key named date-name-2.

The data division further specifies that the file has no explicit labels. In addition, the range of record numbers in a block is specified. Also, the file contains multiple record types, but only one record type having the name record name will be used. Finally, the record has two data elements, the first of which is a three position alphabetic character. The last data element is specified to be a three numeral numeric character.

When invoked, the FDP will accept the FDP source input and initiate a completely independent run. That is, different constructs of FDP source input will produce different FDP run results. The output from a FDP run consists of an internally formatted description of the file specification defined by the FDP source input. This output, along with the ADP source input, is used as input into the ADP.

2. Application Definition Processor Source Input

The ADP links the FDP output and the separate files to produce a processor common input/output system (PCIOS) file. The PCIOC file becomes the data base to be accessed by the QLP. This is accomplished through the ADP source input.

The ADP syntax has two divisions. The first division is the identification division which simply contains the name of the application. The second division is the data division which contains the names of the files to be used in the application, as well as specifying the location of the FDP file description, and the usage restriction on the file. A complete ADP source input syntax is shown below.

```
01        IDENTIFICATION DIVISION
02            APPLICATION NAME IS application-name
03        DATA DIVISION
04            FILE SECTION
05                FILE NAME IS file-name-1
06                    DEFINED IN FILE file-name-2
```

```
07                          ELEMENT element-name-1
08                          QUALIFIER qualifier-name-1
09                    USE IS RETRIEVAL
```

In this example, lines 01, 03 and 04 are descriptive and provide clarity. Line 02 assigns a name to this specific application. Different applications can be applied to the same FDP run. Therefore, the application name is used to identify specific runs. The application name is also used to define where the application run will reside. This is important when linking to the QLP. Line 05 specifies which files will be used in this application and is the same file specified in the SELECT clause, and the FD clause in the FDP source input. Lines 06, 07, and 08 specify precisely where the FDP run output is located. This information is included in the FDP calling sequence. Finally, line 09 defines how the application will be used. The word RETRIEVAL means that the file can only be read. The words UPDATE or OUTPUT may be substituted for RETRIEVAL. The word OUTPUT specifies that the file is intended for initial creation. Finally, the word UPDATE specifies that the file may be both read and written.

The ADP source input along with the FDP output produces an independent ADP run. The output from the ADP run produces internally formatted tables that are used as input into the QLP.

3. FDP and ADP Call Commands

Before the FDP or ADP source input can be used to produce processor runs, each processor must be invoked using call commands. The basic syntax for the call commands is shown below and are described in Table 15.

@ file-name. FDP, options, SI, RO, SO

@ file-name. ADP, options, SI, RO, SO

TABLE 15

CALL SYNTAX

| ELEMENT | DESCRIPTION |
|---|---|
| file-name | Is the name of the file containing the absolute FDP or ADP. |
| options | Are specified through the choice of one or more option letters. |
| D | Produce an allocation summary for each record in the file. This may be used only on the ADP. |
| I | Insert a new symbolic element in the program file. |
| P | Card image input, if any, is in fieldata. The output symbolic element is in fieldata. |
| Q | Output symbolic element is in ACIII. Card image input, if any, is in ASCII. |
| S | The source input will be echoed to the user. |
| U | Update and produce a new cycle of the symbolic element. |
| W | List correction lines. |

The characters SI, RO, and SO are parameters that stand for source input, relocatable output, and source output, respectively. The meaning of the parameters are shown in Table 16.

TABLE 16

PARAMETER DESCRIPTIONS

| PARAMETER | DESCRIPTION |
|---|---|
| SI | If a new element is being introduced from the run, this parameter specifies the file into which the new element is placed and the name it is given. |
| RO | This parameter specifies the name and program file into which the element produced by the processor is placed. |
| SO | This parameter specifies the name and the file for the updated symbolic element produced. |

An example of a processor call is shown below.

```
@ FDP.FDP,S FDP*FDPEXAMPLE.SOURCE,FDP*FDPEXAMPLE.RELOCATABLE
```

In this example, the file name is FDP, and the option is S. The source input contains the actual source description for this file. More specifically the qualifier is FDP, the file name is FDPEXAMPLE, and the element is RELOCATABLE. The relocatable output is specified by the statement FDP*FDPEXAMPLE.RELOCATABLE and is the location where the FDP output will reside.

The processor calls are combined with the FDP and ADP source input to completely define the file and application

definitions. This combination creates a PCIOS file which can be accessed by the QLP.

The procedure for creating the PCIOS file from the 3 ASVAB summary files raw, standard, and composite is explained below.

STEP 1: Produce an FDP description of file raw.

```
@FDP.FDP,S FDP*SCORES.SOURCE,FDP*SCORES.RELOC-RAW
  ENVIRONMENT DIVISION
  INPUT-OUTPUT SECTION
  FILE-CONTROL
      SELECT RAW
      ASSIGN TO DISK
      FILE QUALIFIER IS FDP
      ORGANIZATION IS INDEXED
      RECORD KEY IS SSAN
  DATA DIVISION
  FILE SECTION
  FD RAW
      LABEL RECORDS ARE STANDARD
```

STEP 2: Produce an FDP description of file standard.

```
@FDP.FDP,S FDP*SCORES.SOURCE,FDP*SCORES.RELOC-STAND
  ENVIRONMENT DIVISION
  INPUT-OUTPUT SECTION
  FILE-CONTROL
```

```
        SELECT STANDARD
        ASSIGN TO DISK
        FILE QUALIFIER IS FDP
        ORGANIZATION IS INDEXED
        RECORD KEY IS SSAN
    DATA DIVISION
    FILE SECTION
    FD STANDARD
        LABEL RECORDS ARE STANDARD
```

STEP 3: Produce an FDP description of the file composite.

```
@FDP.FDP,S FDP*SCORES.SOURCE,FDP*SCORES.RELOC-COMP
    ENVIRONMENT DIVISION
    INPUT-OUTPUT SECTION
    FILE CONTROL
        SELECT COMPOSITE
        ASSIGN TO DISK
        ORGANIZATION IS INDEXED
        RECORD KEY IS SSAN
    DATA DIVISION
    FILE SECTION
    FD COMPOSITE
        LABEL RECORDS ARE STANDARD
```

STEP 4: The ADP is used to identify which files are to be used in this application.

```
@ADP.ADP,ADP*SCORES.SOURCE-BATTERY,ADP*SCORES,ACB-BATT
  IDENTIFICATION DIVISION
      APPLICATION NAME IS ACB-BATT
  DATA DIVISION
      FILE SECTION
          FILE NAME IS RAW
              DEFINED IN FILE SCORES
                  ELEMENT RELOC-RAW
                      QUALIFIER IS FDP
              USE IS RETRIEVAL
              FILE NAME IS STANDARD
                   DEFINED IN FILE SCORES
                       ELEMENT RELOC-STAND
                       QUALIFIER IS FDP
              USE IS RETRIEVAL
              FILE NAME IS COMPOSITE
                  DEFINED IN FILE SCORES
                       ELEMENT RELOC-COMP
                       QUALIFIER IS FDP
              USE IS RETRIEVAL
```

STEP 5: The QLP is invoked

```
  INVOKE ACB-BATT OF ADP*SCORES
```

With this accomplished all files and applications are defined. The application tables produced by the ADP are saved in ADP*SCORES.ACB-BATT, and the QLP has been invoked and is prepared to accept QLP 1100 query commands.

4. Query Language Processor, 1100 Series

The QLP accepts as input the ADP output and its specific QLP 1100 language. The QLP output consists of reports and data files that can be stored or printed. The QLP 1100 language is subdivided into eight functional facilities. Each facility has several commands associated with it. The facilities are:

Data system interface facilities
Conversational facilities
Data selection facilities
Operational facilities
Definitional facilities
Logic control and manipulative facilities
Data access and data base network facilities
Savefile facilities

The last four facilities are complex and are intended for use by experienced programmers. They will be given only a cursory explanation. The first four facilities will be explained in more detail.

a. Data System Interface Facilities

(1) INVOKE. INVOKE establishes a link between the user and the data files to be accessed. The syntax is:

INVOKE application-name OF qualifier-name*file-name

An example of the syntax is:

INVOKE ACB-BATT OF ADP*SCORES

This command links the user to application ACB-BATT and the stored output file ADP*SCORES.

(2) EXIT. EXIT releases the link between the user and the file, and terminates QLP processing.

b. Conversational Facilities

(1) LIST. LIST provides the user with a list of data values as specified by the WHERE clause. The syntax is:

LIST data-identifier WHERE expression

An example of the syntax is:

LIST SSAN WHERE AFQT > 90

This command will provide the response:

SSAN = 242968813

SSAN = 016558905

The LIST command may be expanded according to the user's needs. An example of an expanded syntax is:

LIST SSAN, MOS WHERE AFQT > 90

This command will provide the response:

SSAN = 242968813

MOS = 11B10

SSAN = 016558905

MOS = 11C30

The SORT command may be used in conjunction with the LIST command in the following manner:

```
LIST SSAN,MOS,AFQT SORTED ON ASCENDING AFQT
WHERE AFQT > 90
```

This command will provide the response:

SSAN = 016558905

MOS = 11C30

AFQT = 96

SSAN = 242968813

MOS = 11B10

AFQT = 92

(2) COUNT. COUNT tallies the number of occurrences specified by the COUNT clause, and qualified by the WHERE clause. The syntax is:

COUNT data-identifier WHERE expression

An example of the syntax is:

COUNT SSAN WHERE AFQT < 89

This command will provide the response:

312 SSAN RECORDS SELECTED

(3) CHANGE. CHANGE modifies, as specified, the data elements qualified by the WHERE clause. The syntax is:

CHANGE data-identifier=expression WHERE expression

An example of the syntax is:

CHANGE DES='AAA' WHERE SSAN = 041358991

This command changes the DES value to AAA for the record identified by the social security number 041358991.

(4) REPEAT. REPEAT executes the previous command with a new WHERE clause. The syntax is:

REPEAT WHERE expression

The REPEAT command may be used when a previous command did not provide valid results. For example, if the syntax LIST SSAN WHERE AFQT > 101 did not provide valie results because there is no such percentile, the list command may be repeated by commanding:

REPEAT WHERE AFQT > 75

c. Data Selection Facilities

WHERE specifies the criteria for data selection. The syntax is:

```
WHERE expression
```

d. Operational Facilities

OUTPUT defines the destination of subsequent query output to a terminal, printer, or file. The syntax is:

```
OUTPUT TO device
```

For example, in order to send a list command to the printer and then return all output to the originating device the following commands are issued:

```
OUTPUT TO PRINTER
LIST SSAN WHERE AFQT > 70
OUTPUT TO ORIGINATOR
```

e. Definitional Facilities

FORMAT allows the user to specify a simple tabular output form with column headings. The syntax is:

```
FORMAT format-name
    format-clause
END FORMAT
```

The FORMAT syntax is used with other syntax to generate the tables. For example, in order to generate a table with headings, the LIST command is used as shown below.

```
FORMAT FORM
    'SSAN' SSAN 1, 'PERCENTILE' AFQT 20
END FORMAT
LIST USING FORMAT FORM WHERE AFQT > 90
```

The FORMAT syntax specifies that there are two columns to be printed. The first column occupies print positions 1 through 19, while the second column starts in column 20. The table will appear as shown below.

| SSAN | PERCENTILE |
|---|---|
| 242968813 | 92 |
| 016558905 | 96 |

f. Logic Control and Manipulative Facilities

These facilities allow the user to create an algorithm of commands, known as a macro, that can accomplish an application that can not be accomplished with one command. The commands that accomplish this are DO, IF, LEAVE, and RETURN.

g. Data Access and Data Base Network Facilities

These facilities allow the user to process records one at a time, by specifying pointers to specific records.

h. SAVEFILE Facilities

SAVE allows the user to save files. The syntax is:

```
SAVE savefile-name INTO PERMANENT SAVEFILE.
```

In order to save a file named FILE1 the following command is issued:

```
SAVE FILE1 INTO PERMANENT SAVEFILE
```

5. Summary Example

In this example the user has a requirement to provide a selection listing of potential attendees for a special school. The selection listing must provide the social security numbers of the attendees selected, along with a justification for the selection. In addition the number of potential attendees who were selected must be provided.

The user determines that the regression model developed from previous classes will be used to predict SQT scores. The selection criteria are determined from predicted SQT scores first, and AFQT percentile second. The user also determines that only potential attendees with a predicted SQT score of 50 or better are qualified to attend.

The user processes the input data cards in ASVAB, and uses the SPSS program to compute the predicted SQT result. The data in the composite score summary file, and the predicted SQT results are combined into one file using the QLP 1100 command;

```
BUILD COBOL FILE REGDATA ON DISK FROM SSAN, SQT, AFQT,
CO, FA, MM, GM, CL_ GT, EL, SC, ST, OF
```

The user must select the file REGDATA in the FDP and ADP source input. The QLP is then invoked. In order

to satisfy the requirement the user would issue the QLP 1100 commands shown below.

```
FORMAT REQUIRE5
    'SSAN'SSAN1, 'SQT'/'RANK' SQT12, 'AFQT'/'RANK' AFQT16
END FORMAT
OUTPUT TO PRINTER
LIST USING FORMAT REQUIRE5 SORTED ON DESCENDING SQT
SORTED ON DESCENDING AFQT WHERE SQT > 50
COUNT SSAN WHERE SQT > 50
OUTPUT TO ORIGINATOR
EXIT
```

This QLP 1100 query session will produce the output shown below.

```
SSAN        SQT       AFQT
            RANK      RANK
232489961   85        60
016558843   75        55
114863105   75        50
   :
404358221   51        45
97 SSAN RECORDS SELECTED
```

The entire ASVABMIS system as used in the above example is shown in Figure 8. This figure shows that ASVAB can be integrated with SPSS and QLP 1100 into one information system.

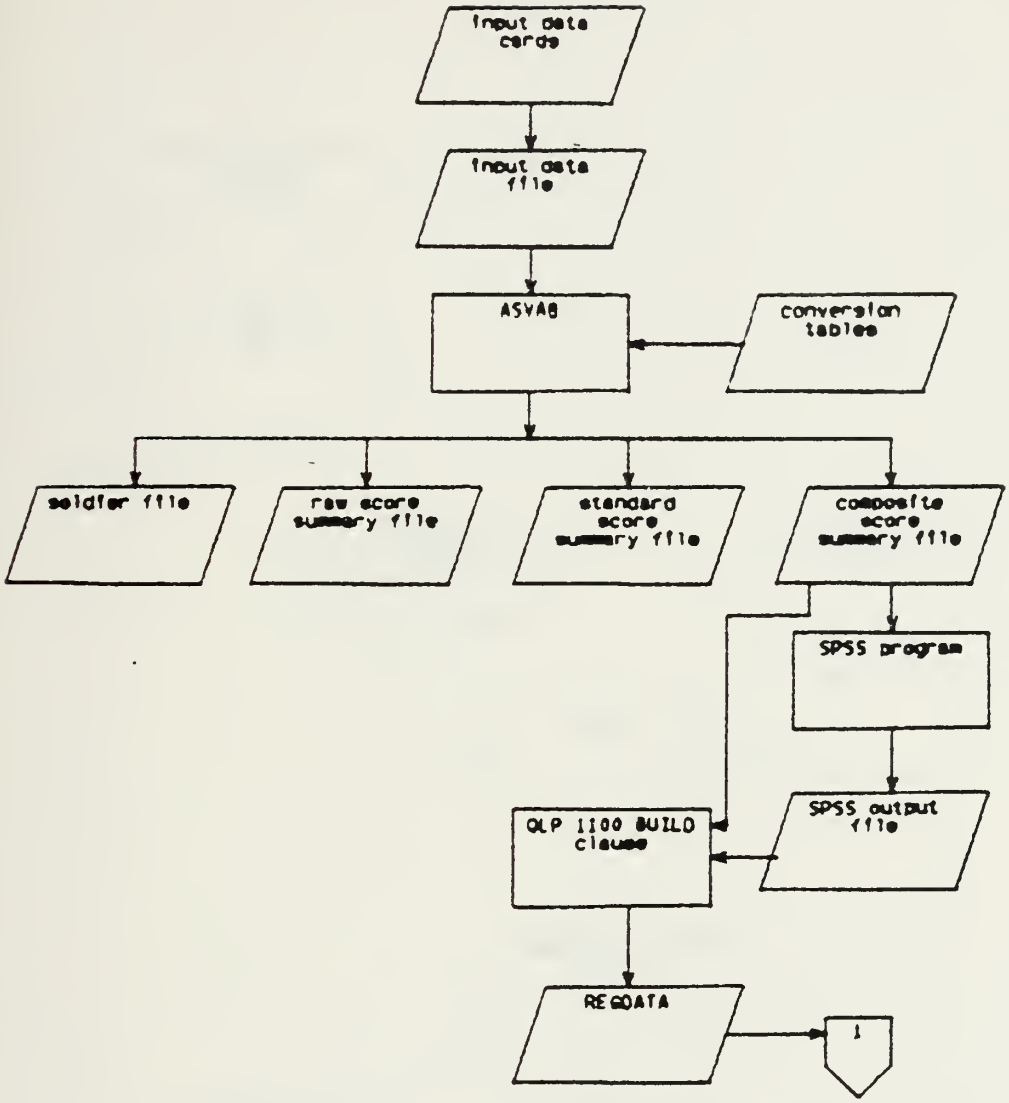


Figure 8. The ASVABMIS System

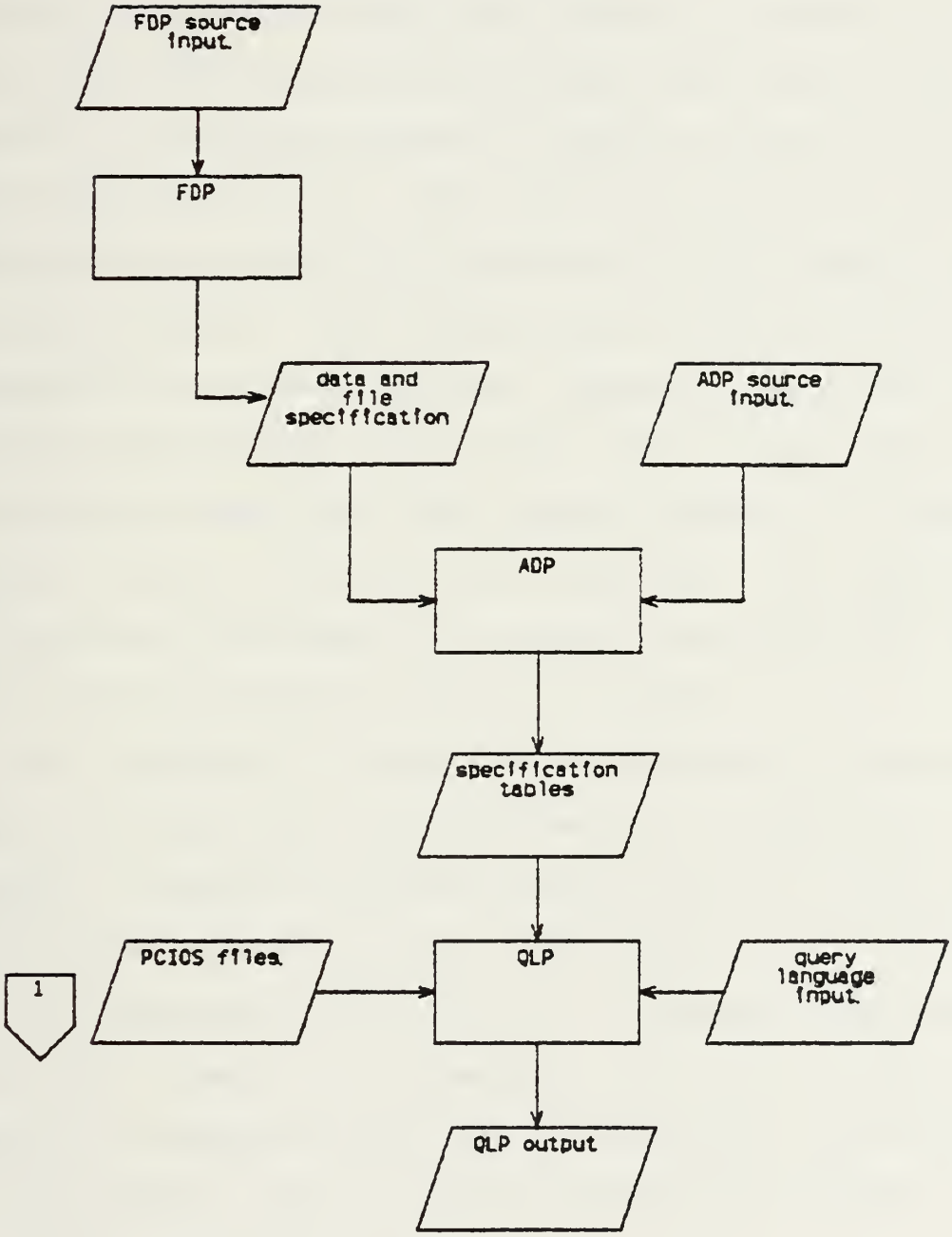


Figure 8. (CONT.)

# V. CONCLUSIONS

The management information system has been developed in order to provide the user with a means to generate, analyze and manage data concerning the Armed Services Aptitude Battery. The ASVAB program is complete and can be immediately installed by the user. This thesis provides the necessary program documentation, and the user need not acquire additional documents. The FORTRAN output files can be used immediately with SPSS programs. However, since only a few sample SPSS programs are provided, the user may find it necessary to obtain the SPSS manuals listed in the bibliography in order to develop other programs. The sample SPSS programs were processed on a computer and are valid. The user can install them as they are written.

The treatment of the QLP 1100 system was introductory only. The user will find it necessary to obtain QLP 1100 manuals in order to further develop this part of the system. The chapter covering the QLP 1100 system could not provide all the necessary information for a complete understanding of QLP 1100. However, the coverage of QLP 1100 is specific enough to demonstrate the ease of operation, and efficiency of the system. This in itself should prompt further development of the QLP 1100 system.

The ASVABMIS system has been designed for use by U.S. Army agencies. The ASVAB program can be expanded for use

by the Air Force and Marine Corps. The same raw scores are used by all 3 services. The major difference is the type of composites computed.

The ASVABMIS system was developed specifically for the Infantry Center's Department of Evaluation and Standardization. The applications discussed in this thesis are relevant to similar departments of the Armor, Field Artillery, and other centers.

A future expansion of the system worthy of note is the installation of ASVABMIS on a mini or micro computer. The ASVAB program can be written in BASIC. In addition, vendor-developed statistical packages and data base systems can be used on small computers in a manner similar to SPSS and QLP 1100.

In conclusion, the ASVABMIS system developed in this thesis will provide the user with the ability to generate and analyze ASVAB data. A limited ability to manage data is also provided. However, extensive data management will require further development by the user.

# APPENDIX A

## INPUT DATA FILE

```
27259E843640420128202160301111B1035471520031206172010090513122 AKL830227
01653224163112511810920060111B1536871340252215161223100917140812132 2 AAA821109
21386E5527630521238210070702540E104092242230144579252024194 8 AAA831015
23544232163052311821113060111B1041852321291344722020211823 AAA831110
01534223764080911810925060111B1037751539252115161223111217131012133 2 AKL840915
```

APPENDIX B

ASVAB 5/6/7 SSS CONVERSION TABLE

| | GI | WK | AR | SP | AD | MK | EI | MC | GS | AI | SI | VJ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 20 | 23 | 23 | 20 | 20 | 26 | 20 | 25 | 24 | 26 | 20 | 20 |
| 1 | 24 | 24 | 25 | 21 | 20 | 28 | 20 | 27 | 26 | 28 | 21 | 20 |
| 2 | 27 | 26 | 27 | 24 | 20 | 30 | 21 | 30 | 29 | 30 | 23 | 21 |
| 3 | 30 | 27 | 29 | 26 | 21 | 32 | 22 | 32 | 31 | 32 | 25 | 22 |
| 4 | 33 | 28 | 32 | 28 | 24 | 35 | 24 | 34 | 33 | 34 | 28 | 23 |
| 5 | 36 | 30 | 34 | 31 | 26 | 37 | 26 | 37 | 36 | 36 | 30 | 24 |
| 6 | 39 | 31 | 36 | 33 | 29 | 39 | 27 | 39 | 38 | 38 | 32 | 25 |
| 7 | 42 | 33 | 38 | 35 | 31 | 41 | 29 | 41 | 40 | 40 | 35 | 26 |
| 8 | 45 | 34 | 40 | 38 | 34 | 43 | 31 | 43 | 42 | 42 | 37 | 27 |
| 9 | 48 | 35 | 42 | 40 | 36 | 45 | 32 | 46 | 45 | 44 | 39 | 28 |
| 10 | 51 | 37 | 44 | 42 | 39 | 47 | 34 | 48 | 47 | 46 | 42 | 29 |
| 11 | 54 | 38 | 46 | 45 | 41 | 49 | 36 | 50 | 49 | 48 | 44 | 30 |
| 12 | 57 | 39 | 48 | 47 | 44 | 51 | 37 | 53 | 52 | 50 | 46 | 31 |
| 13 | 60 | 41 | 51 | 50 | 46 | 53 | 39 | 55 | 54 | 52 | 48 | 32 |
| 14 | 63 | 42 | 53 | 52 | 49 | 55 | 41 | 57 | 56 | 55 | 51 | 33 |
| 15 | 66 | 44 | 55 | 54 | 51 | 57 | 42 | 60 | 58 | 57 | 53 | 34 |
| 16 | | 45 | 57 | 57 | 54 | 59 | 44 | 62 | 61 | 59 | 55 | 35 |
| 17 | | 46 | 59 | 59 | 57 | 61 | 46 | 64 | 63 | 61 | 58 | 36 |
| 18 | | 48 | 61 | 61 | 59 | 63 | 48 | 66 | 65 | 63 | 60 | 37 |
| 19 | | 49 | 63 | 64 | 62 | 65 | 49 | 69 | 68 | 65 | 62 | 38 |
| 20 | | 50 | 65 | 66 | 64 | 67 | 51 | 71 | 70 | 67 | 65 | 39 |
| 21 | | 52 | | | 67 | | 53 | | | | | 40 |
| 22 | | 53 | | | 69 | | 54 | | | | | 41 |
| 23 | | 55 | | | 72 | | 56 | | | | | 42 |
| 24 | | 56 | | | 74 | | 58 | | | | | 43 |
| 25 | | 57 | | | 77 | | 59 | | | | | 44 |
| 26 | | 59 | | | 79 | | 61 | | | | | 45 |
| 27 | | 60 | | | 80 | | 63 | | | | | 46 |
| 28 | | 62 | | | 80 | | 64 | | | | | 47 |
| 29 | | 63 | | | 80 | | 66 | | | | | 48 |
| 30 | | 64 | | | 80 | | 68 | | | | | 49 |
| 31 | | | | | | | | | | | | 50 |
| 32 | | | | | | | | | | | | 51 |
| 33 | | | | | | | | | | | | 52 |
| 34 | | | | | | | | | | | | 53 |
| 35 | | | | | | | | | | | | 54 |
| 36 | | | | | | | | | | | | 55 |
| 37 | | | | | | | | | | | | 56 |
| 38 | | | | | | | | | | | | 57 |
| 39 | | | | | | | | | | | | 58 |
| 40 | | | | | | | | | | | | 59 |
| 41 | | | | | | | | | | | | 60 |
| 42 | | | | | | | | | | | | 61 |
| 43 | | | | | | | | | | | | 62 |
| 44 | | | | | | | | | | | | 63 |
| 45 | | | | | | | | | | | | 64 |
| 46 | | | | | | | | | | | | 65 |
| 47 | | | | | | | | | | | | 66 |
| 48 | | | | | | | | | | | | 67 |
| 49 | | | | | | | | | | | | 68 |
| 50 | | | | | | | | | | | | 69 |

# APPENDIX C

## ASVAB 8/9/10 SSS CONVERSION TABLE

| | GS | AR | WK | PC | NO | CS | AS | MK | MC | EI | VE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 20 | 25 | 20 | 20 | 20 | 23 | 21 | 29 | 22 | 21 | 20 |
| 1 | 20 | 27 | 20 | 22 | 20 | 24 | 22 | 31 | 24 | 23 | 20 |
| 2 | 22 | 28 | 20 | 25 | 20 | 24 | 24 | 32 | 26 | 26 | 20 |
| 3 | 24 | 29 | 20 | 28 | 20 | 25 | 26 | 34 | 28 | 28 | 20 |
| 4 | 26 | 31 | 22 | 31 | 20 | 26 | 28 | 36 | 29 | 30 | 20 |
| 5 | 28 | 32 | 23 | 34 | 20 | 26 | 30 | 37 | 31 | 33 | 21 |
| 6 | 30 | 34 | 24 | 37 | 21 | 27 | 31 | 39 | 33 | 35 | 22 |
| 7 | 32 | 35 | 26 | 40 | 22 | 28 | 33 | 41 | 35 | 37 | 23 |
| 8 | 34 | 36 | 27 | 43 | 23 | 28 | 35 | 42 | 37 | 40 | 23 |
| 9 | 36 | 38 | 28 | 46 | 24 | 29 | 37 | 44 | 38 | 42 | 24 |
| 10 | 38 | 39 | 30 | 49 | 25 | 29 | 39 | 46 | 40 | 44 | 25 |
| 11 | 40 | 41 | 31 | 52 | 26 | 30 | 40 | 48 | 42 | 47 | 26 |
| 12 | 42 | 42 | 32 | 54 | 27 | 31 | 42 | 49 | 44 | 49 | 27 |
| 13 | 44 | 43 | 33 | 57 | 28 | 31 | 44 | 51 | 45 | 51 | 28 |
| 14 | 46 | 45 | 35 | 60 | 29 | 32 | 46 | 53 | 47 | 54 | 29 |
| 15 | 48 | 46 | 36 | 63 | 30 | 33 | 47 | 54 | 49 | 56 | 30 |
| 16 | 50 | 48 | 37 | | 31 | 33 | 49 | 56 | 51 | 58 | 31 |
| 17 | 52 | 49 | 39 | | 32 | 34 | 51 | 58 | 53 | 61 | 32 |
| 18 | 54 | 50 | 40 | | 33 | 34 | 53 | 59 | 54 | 63 | 33 |
| 19 | 56 | 52 | 41 | | 34 | 35 | 55 | 61 | 56 | 65 | 34 |
| 20 | 57 | 53 | 43 | | 35 | 36 | 56 | 63 | 58 | 67 | 35 |
| 21 | 59 | 54 | 44 | | 36 | 36 | 58 | 64 | 60 | | 36 |
| 22 | 61 | 56 | 45 | | 36 | 37 | 60 | 66 | 62 | | 37 |
| 23 | 63 | 57 | 47 | | 37 | 38 | 62 | 68 | 63 | | 38 |
| 24 | 65 | 59 | 48 | | 38 | 38 | 64 | 69 | 65 | | 39 |
| 25 | 67 | 60 | 49 | | 39 | 39 | 65 | 71 | 67 | | 39 |
| 26 | | 61 | 50 | | 40 | 39 | | | | | 40 |
| 27 | | 63 | 52 | | 41 | 40 | | | | | 41 |
| 28 | | 64 | 53 | | 42 | 41 | | | | | 42 |
| 29 | | 66 | 54 | | 43 | 41 | | | | | 43 |
| 30 | | 67 | 56 | | 44 | 42 | | | | | 44 |
| 31 | | | 57 | | 45 | 42 | | | | | 45 |
| 32 | | | 58 | | 46 | 43 | | | | | 46 |
| 33 | | | 60 | | 47 | 44 | | | | | 47 |
| 34 | | | 61 | | 48 | 44 | | | | | 48 |
| 35 | | | 62 | | 49 | 45 | | | | | 49 |
| 36 | | | | | 50 | 46 | | | | | 50 |
| 37 | | | | | 51 | 46 | | | | | 51 |
| 38 | | | | | 52 | 47 | | | | | 52 |
| 39 | | | | | 53 | 47 | | | | | 53 |
| 40 | | | | | 54 | 48 | | | | | 54 |
| 41 | | | | | 55 | 49 | | | | | 55 |
| 42 | | | | | 56 | 49 | | | | | 56 |
| 43 | | | | | 57 | 50 | | | | | 56 |
| 44 | | | | | 58 | 51 | | | | | 57 |
| 45 | | | | | 59 | 51 | | | | | 58 |
| 46 | | | | | 60 | 52 | | | | | 59 |
| 47 | | | | | 61 | 52 | | | | | 60 |
| 48 | | | | | 62 | 53 | | | | | 61 |
| 49 | | | | | 62 | 54 | | | | | 62 |
| 50 | | | | | 63 | 54 | | | | | 63 |
| 51 | | | | | | 55 | | | | | |
| 52 | | | | | | 55 | | | | | |
| 53 | | | | | | 56 | | | | | |
| 54 | | | | | | 57 | | | | | |
| 55 | | | | | | 57 | | | | | |
| 56 | | | | | | 58 | | | | | |
| 57 | | | | | | 59 | | | | | |

| | GS | AR | WK | PC | NO | CS | AS | MK | MC | EI | VE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 58 | | | | | | 59 | | | | | |
| 59 | | | | | | 60 | | | | | |
| 60 | | | | | | 60 | | | | | |
| 61 | | | | | | 61 | | | | | |
| 62 | | | | | | 62 | | | | | |
| 63 | | | | | | 62 | | | | | |
| 64 | | | | | | 63 | | | | | |
| 65 | | | | | | 64 | | | | | |
| 66 | | | | | | 64 | | | | | |
| 67 | | | | | | 65 | | | | | |
| 68 | | | | | | 65 | | | | | |
| 69 | | | | | | 66 | | | | | |
| 70 | | | | | | 67 | | | | | |
| 71 | | | | | | 67 | | | | | |
| 72 | | | | | | 68 | | | | | |
| 73 | | | | | | 69 | | | | | |
| 74 | | | | | | 69 | | | | | |
| 75 | | | | | | 70 | | | | | |
| 76 | | | | | | 70 | | | | | |
| 77 | | | | | | 71 | | | | | |
| 78 | | | | | | 72 | | | | | |
| 79 | | | | | | 72 | | | | | |
| 80 | | | | | | 73 | | | | | |
| 81 | | | | | | 73 | | | | | |
| 82 | | | | | | 74 | | | | | |
| 83 | | | | | | 75 | | | | | |
| 84 | | | | | | 75 | | | | | |

# APPENDIX D

## ASVAB 5 COMPOSITE CONVERSION TABLE

| SSS | GT | GM | EL | CL | MM | SC | CO | FA | OF | ST |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 2 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 3 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 4 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 5 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 6 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 7 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 8 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 9 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 10 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 11 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 12 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 13 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 14 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 15 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 16 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 17 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 18 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 19 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 20 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 21 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 22 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 23 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 24 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 25 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 26 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 27 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 28 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 29 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 30 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 31 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 32 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 33 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 34 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 35 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 36 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 37 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 38 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 39 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 40 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 42 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 43 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 44 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 45 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 46 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 47 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 48 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 49 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 50 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 51 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 52 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 53 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 54 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 55 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 56 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 57 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 58 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 42 | 41 |

| SSS | GT | GM | EL | CL | MM | SC | CO | FA | OF | ST |
|---|---|---|---|---|---|---|---|---|---|---|
| 59 | 43 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 45 | 41 |
| 60 | 45 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 47 | 41 |
| 61 | 49 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 49 | 41 |
| 62 | 53 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 52 | 41 |
| 63 | 55 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 55 | 41 |
| 64 | 57 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 57 | 41 |
| 65 | 59 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 59 | 41 |
| 66 | 61 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 60 | 41 |
| 67 | 62 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 61 | 41 |
| 68 | 63 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 62 | 41 |
| 69 | 65 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 63 | 41 |
| 70 | 66 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 64 | 41 |
| 71 | 67 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 65 | 41 |
| 72 | 68 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 66 | 41 |
| 73 | 69 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 67 | 41 |
| 74 | 70 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 68 | 41 |
| 75 | 71 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 69 | 41 |
| 76 | 72 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 70 | 41 |
| 77 | 73 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 71 | 41 |
| 78 | 74 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 72 | 41 |
| 79 | 75 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 73 | 41 |
| 80 | 76 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 74 | 41 |
| 81 | 77 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 75 | 41 |
| 82 | 78 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 77 | 41 |
| 83 | 79 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 78 | 41 |
| 84 | 81 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 79 | 41 |
| 85 | 82 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 80 | 41 |
| 86 | 83 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 81 | 41 |
| 87 | 84 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 82 | 41 |
| 88 | 85 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 84 | 41 |
| 89 | 87 | 41 | 41 | 42 | 41 | 41 | 41 | 41 | 85 | 41 |
| 90 | 88 | 41 | 41 | 43 | 41 | 41 | 41 | 41 | 86 | 41 |
| 91 | 89 | 41 | 41 | 43 | 41 | 41 | 41 | 41 | 88 | 41 |
| 92 | 91 | 41 | 41 | 44 | 41 | 41 | 41 | 41 | 89 | 41 |
| 93 | 92 | 41 | 41 | 45 | 41 | 41 | 41 | 41 | 90 | 41 |
| 94 | 93 | 41 | 41 | 46 | 41 | 41 | 41 | 41 | 92 | 41 |
| 95 | 95 | 41 | 41 | 47 | 41 | 41 | 41 | 41 | 93 | 41 |
| 96 | 96 | 41 | 41 | 49 | 41 | 41 | 41 | 41 | 94 | 41 |
| 97 | 97 | 41 | 41 | 51 | 41 | 41 | 41 | 41 | 95 | 43 |
| 98 | 98 | 41 | 41 | 53 | 41 | 41 | 41 | 41 | 97 | 45 |
| 99 | 99 | 41 | 41 | 54 | 41 | 41 | 41 | 41 | 98 | 48 |
| 100 | 100 | 41 | 41 | 55 | 41 | 41 | 41 | 41 | 99 | 51 |
| 101 | 100 | 41 | 41 | 56 | 41 | 41 | 41 | 41 | 100 | 54 |
| 102 | 101 | 41 | 41 | 56 | 41 | 41 | 41 | 41 | 101 | 56 |
| 103 | 102 | 41 | 41 | 57 | 41 | 41 | 41 | 41 | 102 | 57 |
| 104 | 103 | 41 | 41 | 58 | 41 | 41 | 41 | 41 | 103 | 59 |
| 105 | 104 | 41 | 41 | 59 | 41 | 41 | 41 | 41 | 104 | 60 |
| 106 | 105 | 41 | 41 | 60 | 41 | 41 | 41 | 41 | 105 | 61 |
| 107 | 106 | 41 | 41 | 61 | 41 | 41 | 41 | 41 | 106 | 63 |
| 108 | 107 | 41 | 41 | 62 | 41 | 41 | 41 | 41 | 107 | 64 |
| 109 | 108 | 41 | 41 | 63 | 41 | 41 | 41 | 41 | 108 | 65 |
| 110 | 109 | 41 | 41 | 63 | 41 | 41 | 41 | 41 | 109 | 66 |
| 111 | 110 | 41 | 41 | 64 | 41 | 41 | 41 | 41 | 110 | 67 |
| 112 | 111 | 41 | 41 | 65 | 41 | 41 | 41 | 41 | 111 | 68 |
| 113 | 112 | 41 | 41 | 65 | 41 | 41 | 41 | 41 | 112 | 69 |
| 114 | 113 | 41 | 41 | 66 | 41 | 41 | 41 | 41 | 113 | 69 |
| 115 | 114 | 41 | 41 | 67 | 41 | 41 | 41 | 41 | 115 | 70 |
| 116 | 115 | 41 | 41 | 68 | 41 | 41 | 41 | 41 | 116 | 71 |
| 117 | 116 | 41 | 41 | 68 | 41 | 41 | 41 | 41 | 118 | 72 |
| 118 | 117 | 41 | 42 | 69 | 41 | 41 | 41 | 41 | 119 | 73 |
| 119 | 118 | 41 | 43 | 70 | 41 | 41 | 41 | 41 | 120 | 74 |
| 120 | 119 | 41 | 44 | 70 | 41 | 41 | 42 | 42 | 121 | 75 |
| 121 | 120 | 41 | 45 | 71 | 42 | 41 | 42 | 43 | 122 | 76 |
| 122 | 121 | 41 | 45 | 72 | 42 | 41 | 43 | 44 | 123 | 77 |
| 123 | 122 | 41 | 46 | 73 | 43 | 42 | 43 | 45 | 124 | 78 |
| 124 | 124 | 41 | 46 | 73 | 44 | 43 | 44 | 46 | 125 | 79 |

| SSS | GT | GM | EL | CL | MM | SC | CO | FA | OF | ST |
|---|---|---|---|---|---|---|---|---|---|---|
| 125 | 125 | 41 | 47 | 74 | 45 | 43 | 44 | 47 | 126 | 80 |
| 126 | 127 | 41 | 48 | 75 | 46 | 44 | 44 | 48 | 127 | 81 |
| 127 | 129 | 41 | 49 | 76 | 47 | 44 | 45 | 49 | 128 | 82 |
| 128 | 133 | 42 | 51 | 77 | 49 | 45 | 45 | 51 | 129 | 83 |
| 129 | 138 | 44 | 53 | 78 | 51 | 46 | 46 | 52 | 131 | 84 |
| 130 | 138 | 45 | 55 | 79 | 53 | 47 | 47 | 54 | 133 | 85 |
| 131 | 138 | 46 | 56 | 80 | 54 | 48 | 48 | 55 | 135 | 86 |
| 132 | 138 | 47 | 57 | 80 | 55 | 50 | 49 | 56 | 137 | 87 |
| 133 | 138 | 49 | 58 | 81 | 56 | 51 | 50 | 57 | 138 | 88 |
| 134 | 138 | 51 | 59 | 82 | 57 | 53 | 51 | 58 | 138 | 89 |
| 135 | 138 | 53 | 59 | 83 | 58 | 54 | 53 | 59 | 138 | 90 |
| 136 | 138 | 55 | 60 | 84 | 59 | 55 | 55 | 60 | 138 | 91 |
| 137 | 138 | 56 | 60 | 85 | 60 | 56 | 56 | 60 | 138 | 92 |
| 138 | 138 | 57 | 61 | 86 | 60 | 58 | 56 | 61 | 138 | 93 |
| 139 | 138 | 58 | 62 | 88 | 61 | 59 | 57 | 61 | 138 | 94 |
| 140 | 138 | 59 | 62 | 89 | 62 | 60 | 57 | 62 | 138 | 95 |
| 141 | 138 | 60 | 63 | 90 | 62 | 61 | 58 | 63 | 138 | 95 |
| 142 | 138 | 61 | 63 | 91 | 63 | 62 | 58 | 63 | 138 | 96 |
| 143 | 138 | 62 | 64 | 93 | 63 | 62 | 59 | 64 | 138 | 97 |
| 144 | 138 | 62 | 65 | 94 | 64 | 63 | 60 | 65 | 138 | 97 |
| 145 | 138 | 63 | 65 | 95 | 64 | 64 | 60 | 65 | 138 | 98 |
| 146 | 138 | 64 | 66 | 96 | 65 | 64 | 61 | 65 | 138 | 99 |
| 147 | 138 | 64 | 66 | 97 | 65 | 65 | 62 | 66 | 138 | 99 |
| 148 | 138 | 65 | 67 | 98 | 66 | 66 | 62 | 66 | 138 | 100 |
| 149 | 138 | 66 | 67 | 99 | 67 | 66 | 63 | 67 | 138 | 101 |
| 150 | 138 | 66 | 68 | 100 | 67 | 67 | 63 | 67 | 138 | 101 |
| 151 | 138 | 67 | 68 | 100 | 68 | 68 | 64 | 68 | 138 | 102 |
| 152 | 138 | 68 | 69 | 101 | 69 | 68 | 65 | 69 | 138 | 102 |
| 153 | 138 | 69 | 70 | 102 | 69 | 69 | 65 | 69 | 138 | 103 |
| 154 | 138 | 70 | 70 | 102 | 70 | 70 | 66 | 70 | 138 | 104 |
| 155 | 138 | 70 | 71 | 103 | 70 | 70 | 66 | 71 | 138 | 104 |
| 156 | 138 | 71 | 71 | 104 | 71 | 71 | 67 | 71 | 138 | 105 |
| 157 | 138 | 72 | 72 | 105 | 71 | 72 | 67 | 72 | 138 | 105 |
| 158 | 138 | 73 | 73 | 106 | 72 | 72 | 68 | 72 | 138 | 106 |
| 159 | 138 | 73 | 73 | 106 | 73 | 73 | 68 | 73 | 138 | 107 |
| 160 | 138 | 74 | 74 | 107 | 73 | 74 | 69 | 74 | 138 | 107 |
| 161 | 138 | 75 | 74 | 108 | 74 | 74 | 70 | 74 | 138 | 108 |
| 162 | 138 | 75 | 75 | 109 | 75 | 75 | 70 | 75 | 138 | 109 |
| 163 | 138 | 76 | 76 | 110 | 76 | 76 | 71 | 75 | 138 | 109 |
| 164 | 138 | 76 | 76 | 111 | 76 | 76 | 71 | 76 | 138 | 110 |
| 165 | 138 | 77 | 77 | 112 | 77 | 77 | 72 | 77 | 138 | 111 |
| 166 | 138 | 78 | 77 | 113 | 77 | 78 | 72 | 77 | 138 | 111 |
| 167 | 138 | 79 | 78 | 114 | 78 | 78 | 73 | 78 | 138 | 112 |
| 168 | 138 | 79 | 79 | 115 | 78 | 79 | 74 | 79 | 138 | 113 |
| 169 | 138 | 80 | 79 | 116 | 79 | 80 | 75 | 79 | 138 | 113 |
| 170 | 138 | 81 | 80 | 117 | 80 | 80 | 75 | 80 | 138 | 114 |
| 171 | 138 | 82 | 81 | 118 | 80 | 81 | 76 | 81 | 138 | 115 |
| 172 | 138 | 83 | 82 | 118 | 81 | 82 | 77 | 82 | 138 | 115 |
| 173 | 138 | 83 | 83 | 119 | 81 | 83 | 77 | 82 | 138 | 116 |
| 174 | 138 | 84 | 83 | 120 | 82 | 83 | 78 | 83 | 138 | 116 |
| 175 | 138 | 85 | 84 | 120 | 83 | 84 | 79 | 84 | 138 | 117 |
| 176 | 138 | 86 | 84 | 121 | 84 | 85 | 80 | 84 | 138 | 117 |
| 177 | 138 | 87 | 85 | 122 | 84 | 86 | 80 | 85 | 138 | 118 |
| 178 | 138 | 88 | 85 | 123 | 85 | 87 | 81 | 85 | 138 | 119 |
| 179 | 138 | 89 | 86 | 123 | 86 | 88 | 82 | 86 | 138 | 119 |
| 180 | 138 | 89 | 87 | 124 | 87 | 89 | 83 | 87 | 138 | 120 |
| 181 | 138 | 90 | 88 | 124 | 87 | 90 | 84 | 88 | 138 | 120 |
| 182 | 138 | 91 | 89 | 125 | 88 | 90 | 85 | 89 | 138 | 121 |
| 183 | 138 | 91 | 90 | 125 | 89 | 91 | 85 | 90 | 138 | 122 |
| 184 | 138 | 92 | 90 | 126 | 89 | 92 | 86 | 90 | 138 | 122 |
| 185 | 138 | 93 | 91 | 127 | 90 | 93 | 87 | 91 | 138 | 123 |
| 186 | 138 | 93 | 92 | 128 | 91 | 93 | 88 | 92 | 138 | 123 |
| 187 | 138 | 94 | 92 | 129 | 92 | 94 | 89 | 93 | 138 | 124 |
| 188 | 138 | 95 | 93 | 130 | 92 | 95 | 90 | 94 | 138 | 125 |
| 189 | 138 | 95 | 94 | 130 | 93 | 95 | 91 | 94 | 138 | 126 |
| 190 | 138 | 96 | 94 | 131 | 94 | 96 | 92 | 95 | 138 | 126 |

| SSS | GT | GM | EL | CL | MM | SC | CO | FA | OF | ST |
|---|---|---|---|---|---|---|---|---|---|---|
| 191 | 138 | 97 | 95 | 132 | 95 | 97 | 93 | 95 | 138 | 127 |
| 192 | 138 | 97 | 96 | 133 | 95 | 97 | 94 | 96 | 138 | 128 |
| 193 | 138 | 98 | 96 | 133 | 96 | 98 | 95 | 97 | 138 | 129 |
| 194 | 138 | 98 | 97 | 134 | 96 | 98 | 96 | 97 | 138 | 130 |
| 195 | 138 | 99 | 97 | 134 | 97 | 99 | 97 | 98 | 138 | 131 |
| 196 | 138 | 100 | 98 | 135 | 98 | 99 | 97 | 98 | 138 | 132 |
| 197 | 138 | 100 | 98 | 136 | 98 | 100 | 98 | 99 | 138 | 133 |
| 198 | 138 | 100 | 99 | 137 | 99 | 100 | 99 | 99 | 138 | 135 |
| 199 | 138 | 101 | 100 | 137 | 99 | 101 | 100 | 100 | 138 | 137 |
| 200 | 138 | 101 | 100 | 138 | 100 | 101 | 100 | 100 | 138 | 138 |
| 201 | 138 | 102 | 100 | 138 | 100 | 102 | 101 | 101 | 138 | 138 |
| 202 | 138 | 102 | 101 | 138 | 101 | 102 | 102 | 101 | 138 | 138 |
| 203 | 138 | 103 | 101 | 138 | 101 | 103 | 102 | 102 | 138 | 138 |
| 204 | 138 | 103 | 102 | 138 | 102 | 103 | 103 | 102 | 138 | 138 |
| 205 | 138 | 104 | 102 | 138 | 103 | 104 | 104 | 103 | 138 | 138 |
| 206 | 138 | 104 | 103 | 138 | 104 | 104 | 104 | 103 | 138 | 138 |
| 207 | 138 | 105 | 103 | 138 | 104 | 105 | 105 | 103 | 138 | 138 |
| 208 | 138 | 105 | 104 | 138 | 105 | 105 | 105 | 104 | 138 | 138 |
| 209 | 138 | 106 | 105 | 138 | 105 | 106 | 106 | 105 | 138 | 138 |
| 210 | 138 | 106 | 105 | 138 | 106 | 106 | 107 | 106 | 138 | 138 |
| 211 | 138 | 107 | 106 | 138 | 106 | 107 | 108 | 106 | 138 | 138 |
| 212 | 138 | 107 | 107 | 138 | 107 | 108 | 108 | 107 | 138 | 138 |
| 213 | 138 | 108 | 107 | 138 | 108 | 108 | 109 | 108 | 138 | 138 |
| 214 | 138 | 109 | 108 | 138 | 108 | 109 | 110 | 108 | 138 | 138 |
| 215 | 138 | 109 | 109 | 138 | 109 | 110 | 110 | 109 | 138 | 138 |
| 216 | 138 | 110 | 110 | 138 | 110 | 110 | 111 | 110 | 138 | 138 |
| 217 | 138 | 110 | 110 | 138 | 110 | 111 | 112 | 110 | 138 | 138 |
| 218 | 138 | 111 | 111 | 138 | 111 | 111 | 112 | 111 | 138 | 138 |
| 219 | 138 | 112 | 111 | 138 | 111 | 112 | 113 | 111 | 138 | 138 |
| 220 | 138 | 112 | 111 | 138 | 112 | 112 | 114 | 112 | 138 | 138 |
| 221 | 138 | 113 | 112 | 138 | 112 | 113 | 114 | 112 | 138 | 138 |
| 222 | 138 | 113 | 112 | 138 | 113 | 113 | 115 | 113 | 138 | 138 |
| 223 | 138 | 114 | 113 | 138 | 113 | 114 | 116 | 113 | 138 | 138 |
| 224 | 138 | 114 | 114 | 138 | 114 | 115 | 117 | 114 | 138 | 138 |
| 225 | 138 | 115 | 115 | 138 | 115 | 115 | 117 | 114 | 138 | 138 |
| 226 | 138 | 115 | 115 | 138 | 115 | 116 | 118 | 115 | 138 | 138 |
| 227 | 138 | 116 | 116 | 138 | 116 | 116 | 119 | 115 | 138 | 138 |
| 228 | 138 | 116 | 116 | 138 | 117 | 117 | 119 | 116 | 138 | 138 |
| 229 | 138 | 117 | 117 | 138 | 117 | 117 | 120 | 116 | 138 | 138 |
| 230 | 138 | 117 | 117 | 138 | 118 | 118 | 120 | 117 | 138 | 138 |
| 231 | 138 | 118 | 118 | 138 | 118 | 118 | 121 | 117 | 138 | 138 |
| 232 | 138 | 118 | 118 | 138 | 119 | 119 | 122 | 118 | 138 | 138 |
| 233 | 138 | 119 | 119 | 138 | 120 | 119 | 122 | 119 | 138 | 138 |
| 234 | 138 | 119 | 119 | 138 | 120 | 120 | 123 | 120 | 138 | 138 |
| 235 | 138 | 119 | 120 | 138 | 121 | 120 | 123 | 120 | 138 | 138 |
| 236 | 138 | 120 | 120 | 138 | 121 | 120 | 124 | 120 | 138 | 138 |
| 237 | 138 | 120 | 121 | 138 | 122 | 121 | 124 | 121 | 138 | 138 |
| 238 | 138 | 120 | 121 | 138 | 122 | 121 | 125 | 121 | 138 | 138 |
| 239 | 138 | 121 | 122 | 138 | 123 | 122 | 125 | 122 | 138 | 138 |
| 240 | 138 | 121 | 122 | 138 | 123 | 122 | 126 | 122 | 138 | 138 |
| 241 | 138 | 121 | 123 | 138 | 123 | 123 | 126 | 123 | 138 | 138 |
| 242 | 138 | 122 | 123 | 138 | 124 | 123 | 127 | 123 | 138 | 138 |
| 243 | 138 | 122 | 123 | 138 | 124 | 124 | 128 | 123 | 138 | 138 |
| 244 | 138 | 123 | 124 | 138 | 125 | 124 | 129 | 124 | 138 | 138 |
| 245 | 138 | 123 | 124 | 138 | 125 | 125 | 129 | 124 | 138 | 138 |
| 246 | 138 | 124 | 125 | 138 | 126 | 126 | 130 | 125 | 138 | 138 |
| 247 | 138 | 124 | 125 | 138 | 126 | 127 | 130 | 125 | 138 | 138 |
| 248 | 138 | 125 | 126 | 138 | 127 | 127 | 131 | 126 | 138 | 138 |
| 249 | 138 | 125 | 126 | 138 | 128 | 128 | 132 | 126 | 138 | 138 |
| 250 | 138 | 126 | 127 | 138 | 129 | 129 | 133 | 127 | 138 | 138 |
| 251 | 138 | 127 | 128 | 138 | 130 | 130 | 134 | 127 | 138 | 138 |
| 252 | 138 | 128 | 128 | 138 | 130 | 132 | 135 | 128 | 138 | 138 |
| 253 | 138 | 129 | 129 | 138 | 131 | 133 | 136 | 128 | 138 | 138 |
| 254 | 138 | 129 | 130 | 138 | 133 | 134 | 137 | 129 | 138 | 138 |
| 255 | 138 | 130 | 131 | 138 | 135 | 135 | 137 | 130 | 138 | 138 |
| 256 | 138 | 130 | 132 | 138 | 137 | 136 | 138 | 131 | 138 | 138 |

| SSS | GT | GM | EL | CL | MM | SC | CO | FA | OF | ST |
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| 257 | 138 | 131 | 134 | 138 | 138 | 136 | 138 | 133 | 138 | 138 |
| 258 | 138 | 131 | 135 | 136 | 139 | 137 | 139 | 135 | 138 | 138 |
| 259 | 138 | 132 | 136 | 138 | 139 | 137 | 139 | 137 | 138 | 138 |
| 260 | 138 | 133 | 137 | 138 | 139 | 138 | 139 | 139 | 138 | 138 |
| 261 | 138 | 134 | 138 | 136 | 139 | 138 | 139 | 139 | 138 | 138 |
| 262 | 138 | 135 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 263 | 138 | 137 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 264 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 265 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 266 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 267 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 268 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 269 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 270 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 271 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 272 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 273 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 274 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 275 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 276 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 277 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 278 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 279 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 280 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 281 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 282 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 283 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 284 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 285 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 286 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 287 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
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| 289 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 290 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 291 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 292 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 293 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 294 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 295 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 296 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 297 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 298 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 299 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 300 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 301 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 302 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 303 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 304 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 305 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 306 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 307 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 308 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 309 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 310 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 311 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 312 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 313 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 314 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 315 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 316 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 317 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 318 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 319 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |
| 320 | 138 | 139 | 139 | 138 | 139 | 139 | 139 | 139 | 138 | 138 |

# APPENDIX E

## ASVAB 6/7 COMPOSITE CONVERSION TABLE

| RAW | GT | GM | EL | CL | MM | SC | CO | FA | OF | ST |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 |
| 1 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 |
| 2 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 |
| 3 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 |
| 4 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 |
| 5 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 |
| 6 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 |
| 7 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 |
| 8 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 |
| 9 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 |
| 10 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 |
| 11 | 55 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 |
| 12 | 60 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 54 |
| 13 | 61 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 55 | 58 |
| 14 | 64 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 58 | 60 |
| 15 | 65 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 60 | 62 |
| 16 | 67 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 62 | 64 |
| 17 | 69 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 64 | 66 |
| 18 | 71 | 58 | 53 | 53 | 53 | 53 | 53 | 53 | 66 | 69 |
| 19 | 73 | 61 | 53 | 53 | 53 | 53 | 53 | 53 | 68 | 72 |
| 20 | 75 | 62 | 53 | 53 | 53 | 53 | 53 | 53 | 71 | 75 |
| 21 | 77 | 64 | 53 | 53 | 53 | 53 | 53 | 53 | 73 | 76 |
| 22 | 78 | 65 | 53 | 53 | 53 | 53 | 53 | 53 | 76 | 78 |
| 23 | 80 | 66 | 53 | 53 | 53 | 53 | 53 | 53 | 78 | 80 |
| 24 | 82 | 68 | 53 | 53 | 53 | 54 | 53 | 53 | 80 | 82 |
| 25 | 85 | 70 | 53 | 53 | 53 | 55 | 53 | 53 | 82 | 84 |
| 26 | 87 | 72 | 54 | 53 | 53 | 57 | 53 | 53 | 84 | 87 |
| 27 | 89 | 73 | 55 | 53 | 53 | 59 | 53 | 53 | 88 | 89 |
| 28 | 92 | 75 | 56 | 54 | 55 | 61 | 53 | 54 | 90 | 91 |
| 29 | 94 | 76 | 56 | 55 | 57 | 63 | 53 | 57 | 93 | 93 |
| 30 | 96 | 78 | 57 | 57 | 59 | 64 | 53 | 58 | 95 | 95 |
| 31 | 98 | 79 | 60 | 59 | 60 | 65 | 53 | 60 | 98 | 96 |
| 32 | 100 | 81 | 61 | 61 | 61 | 66 | 53 | 61 | 100 | 98 |
| 33 | 102 | 82 | 62 | 61 | 62 | 67 | 53 | 62 | 102 | 100 |
| 34 | 104 | 83 | 64 | 62 | 63 | 69 | 53 | 64 | 105 | 101 |
| 35 | 106 | 85 | 65 | 63 | 64 | 70 | 53 | 65 | 108 | 102 |
| 36 | 108 | 87 | 66 | 64 | 65 | 72 | 53 | 66 | 110 | 104 |
| 37 | 109 | 89 | 68 | 65 | 66 | 73 | 53 | 67 | 112 | 105 |
| 38 | 111 | 90 | 69 | 67 | 67 | 75 | 53 | 69 | 114 | 107 |
| 39 | 112 | 92 | 70 | 68 | 68 | 76 | 55 | 71 | 115 | 108 |
| 40 | 113 | 93 | 72 | 70 | 70 | 77 | 55 | 72 | 118 | 109 |
| 41 | 115 | 94 | 73 | 71 | 71 | 78 | 57 | 73 | 121 | 111 |
| 42 | 116 | 96 | 74 | 73 | 72 | 80 | 57 | 74 | 123 | 112 |
| 43 | 117 | 97 | 75 | 75 | 73 | 81 | 59 | 76 | 125 | 113 |
| 44 | 119 | 98 | 76 | 77 | 75 | 82 | 61 | 77 | 126 | 114 |
| 45 | 121 | 99 | 77 | 78 | 76 | 84 | 62 | 78 | 127 | 115 |
| 46 | 123 | 101 | 78 | 79 | 77 | 85 | 63 | 79 | 130 | 116 |
| 47 | 124 | 102 | 80 | 81 | 78 | 87 | 64 | 81 | 132 | 118 |
| 48 | 126 | 103 | 81 | 82 | 79 | 89 | 65 | 82 | 132 | 119 |
| 49 | 131 | 104 | 82 | 84 | 80 | 91 | 66 | 83 | 133 | 120 |
| 50 | 135 | 106 | 83 | 86 | 81 | 92 | 66 | 84 | 133 | 121 |
| 51 | 135 | 107 | 85 | 88 | 81 | 94 | 68 | 86 | 134 | 122 |
| 52 | 135 | 108 | 86 | 90 | 82 | 95 | 70 | 88 | 135 | 123 |
| 53 | 135 | 109 | 87 | 92 | 84 | 96 | 70 | 89 | 135 | 125 |
| 54 | 135 | 110 | 89 | 94 | 85 | 98 | 72 | 91 | 135 | 126 |
| 55 | 135 | 111 | 90 | 96 | 86 | 99 | 74 | 92 | 135 | 128 |
| 56 | 135 | 112 | 91 | 98 | 88 | 100 | 75 | 92 | 135 | 130 |
| 57 | 135 | 113 | 92 | 99 | 89 | 101 | 76 | 95 | 135 | 131 |

| RAW | GT | GM | EL | CL | MM | SC | CO | FA | OF | ST |
|---|---|---|---|---|---|---|---|---|---|---|
| 58 | 135 | 114 | 93 | 101 | 90 | 102 | 77 | 96 | 135 | 135 |
| 59 | 135 | 115 | 95 | 102 | 91 | 103 | 78 | 98 | 135 | 135 |
| 60 | 135 | 116 | 96 | 103 | 92 | 105 | 79 | 99 | 135 | 135 |
| 61 | 135 | 117 | 97 | 105 | 93 | 106 | 82 | 100 | 135 | 135 |
| 62 | 135 | 118 | 98 | 107 | 94 | 107 | 82 | 101 | 135 | 135 |
| 63 | 135 | 119 | 99 | 108 | 95 | 108 | 83 | 102 | 135 | 135 |
| 64 | 135 | 120 | 100 | 109 | 96 | 109 | 85 | 103 | 135 | 135 |
| 65 | 135 | 122 | 101 | 110 | 97 | 110 | 86 | 105 | 135 | 135 |
| 66 | 135 | 123 | 102 | 111 | 98 | 111 | 88 | 106 | 135 | 135 |
| 67 | 135 | 124 | 103 | 113 | 99 | 112 | 90 | 107 | 135 | 135 |
| 68 | 135 | 125 | 104 | 114 | 100 | 112 | 91 | 109 | 135 | 135 |
| 69 | 135 | 126 | 105 | 115 | 101 | 113 | 93 | 110 | 135 | 135 |
| 70 | 135 | 126 | 106 | 117 | 102 | 115 | 94 | 111 | 135 | 135 |
| 71 | 135 | 127 | 108 | 117 | 103 | 116 | 95 | 111 | 135 | 135 |
| 72 | 135 | 128 | 109 | 119 | 104 | 117 | 96 | 112 | 135 | 135 |
| 73 | 135 | 128 | 110 | 120 | 105 | 118 | 98 | 113 | 135 | 135 |
| 74 | 135 | 130 | 111 | 122 | 106 | 119 | 99 | 114 | 135 | 135 |
| 75 | 135 | 131 | 112 | 123 | 107 | 120 | 100 | 115 | 135 | 135 |
| 76 | 135 | 131 | 112 | 124 | 108 | 121 | 102 | 116 | 135 | 135 |
| 77 | 135 | 132 | 113 | 125 | 109 | 122 | 104 | 117 | 135 | 135 |
| 78 | 135 | 135 | 114 | 125 | 110 | 123 | 105 | 118 | 135 | 135 |
| 79 | 135 | 135 | 115 | 126 | 111 | 124 | 106 | 119 | 135 | 135 |
| 80 | 135 | 135 | 116 | 127 | 112 | 125 | 108 | 120 | 135 | 135 |
| 81 | 135 | 135 | 116 | 128 | 113 | 126 | 109 | 121 | 135 | 135 |
| 82 | 135 | 135 | 117 | 129 | 113 | 127 | 110 | 122 | 135 | 135 |
| 83 | 135 | 135 | 118 | 130 | 114 | 128 | 111 | 122 | 135 | 135 |
| 84 | 135 | 135 | 119 | 130 | 115 | 130 | 112 | 123 | 135 | 135 |
| 85 | 135 | 135 | 120 | 131 | 116 | 132 | 113 | 124 | 135 | 135 |
| 86 | 135 | 135 | 121 | 132 | 117 | 132 | 114 | 125 | 135 | 135 |
| 87 | 135 | 135 | 122 | 132 | 118 | 135 | 115 | 125 | 135 | 135 |
| 88 | 135 | 135 | 123 | 132 | 119 | 135 | 117 | 126 | 135 | 135 |
| 89 | 135 | 135 | 123 | 133 | 120 | 135 | 118 | 127 | 135 | 135 |
| 90 | 135 | 135 | 124 | 135 | 121 | 135 | 120 | 127 | 135 | 135 |
| 91 | 135 | 135 | 125 | 135 | 121 | 135 | 121 | 128 | 135 | 135 |
| 92 | 135 | 135 | 126 | 135 | 122 | 135 | 122 | 129 | 135 | 135 |
| 93 | 135 | 135 | 126 | 135 | 123 | 135 | 123 | 130 | 135 | 135 |
| 94 | 135 | 135 | 127 | 135 | 124 | 135 | 124 | 130 | 135 | 135 |
| 95 | 135 | 135 | 127 | 135 | 125 | 135 | 125 | 131 | 135 | 135 |
| 96 | 135 | 135 | 128 | 135 | 126 | 135 | 126 | 132 | 135 | 135 |
| 97 | 135 | 135 | 129 | 135 | 126 | 135 | 127 | 135 | 135 | 135 |
| 98 | 135 | 135 | 129 | 135 | 127 | 135 | 127 | 135 | 135 | 135 |
| 99 | 135 | 135 | 132 | 135 | 128 | 135 | 128 | 135 | 135 | 135 |
| 100 | 135 | 135 | 132 | 135 | 129 | 135 | 128 | 135 | 135 | 135 |
| 101 | 135 | 135 | 133 | 135 | 130 | 135 | 128 | 135 | 135 | 135 |
| 102 | 135 | 135 | 134 | 135 | 131 | 135 | 129 | 135 | 135 | 135 |
| 103 | 135 | 135 | 135 | 135 | 132 | 135 | 129 | 135 | 135 | 135 |
| 104 | 135 | 135 | 135 | 135 | 132 | 135 | 129 | 135 | 135 | 135 |
| 105 | 135 | 135 | 135 | 135 | 135 | 135 | 130 | 135 | 135 | 135 |
| 106 | 135 | 135 | 135 | 135 | 135 | 135 | 130 | 135 | 135 | 135 |
| 107 | 135 | 135 | 135 | 135 | 135 | 135 | 130 | 135 | 135 | 135 |
| 108 | 135 | 135 | 135 | 135 | 135 | 135 | 132 | 135 | 135 | 135 |
| 109 | 135 | 135 | 135 | 135 | 135 | 135 | 135 | 135 | 135 | 135 |
| 110 | 135 | 135 | 135 | 135 | 135 | 135 | 135 | 135 | 135 | 135 |

APPENDIX F

ASVAB 8/9/10 COMPOSITE CONVERSION TABLE

| SSS | GT | GM | EL | CL | MM | SC | CO | FA | OF | ST |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 2 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 3 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 4 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 5 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 6 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 7 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 8 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 9 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 10 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 11 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 12 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 13 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 14 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 15 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 16 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 17 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 18 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 19 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 20 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 21 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 22 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 23 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 24 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 25 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 26 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 27 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 28 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 29 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 30 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 31 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 32 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 33 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 34 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 35 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 36 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 37 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 38 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 39 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 41 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 42 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 43 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 44 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 45 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 46 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 47 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 48 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 49 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 50 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 51 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 52 | 41 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 53 | 41 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 54 | 41 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 55 | 41 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 56 | 41 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 57 | 43 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 58 | 46 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |

| SSS | GT | GM | EL | CL | MM | SC | CO | FA | OF | ST |
|---|---|---|---|---|---|---|---|---|---|---|
| 59 | 50 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 60 | 52 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 61 | 54 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 62 | 56 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 63 | 57 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 64 | 59 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 65 | 61 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 66 | 62 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 67 | 63 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 68 | 64 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 69 | 65 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 70 | 66 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 71 | 67 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 72 | 68 | 40 | 40 | 41 | 40 | 40 | 40 | 40 | 40 | 40 |
| 73 | 70 | 40 | 40 | 41 | 40 | 40 | 40 | 40 | 40 | 40 |
| 74 | 71 | 40 | 40 | 41 | 40 | 40 | 40 | 40 | 40 | 40 |
| 75 | 72 | 40 | 40 | 41 | 40 | 40 | 40 | 40 | 40 | 40 |
| 76 | 73 | 40 | 40 | 41 | 40 | 40 | 40 | 40 | 40 | 40 |
| 77 | 74 | 40 | 40 | 41 | 40 | 40 | 40 | 40 | 40 | 40 |
| 78 | 75 | 40 | 40 | 41 | 40 | 40 | 40 | 40 | 40 | 40 |
| 79 | 76 | 40 | 40 | 43 | 40 | 40 | 40 | 40 | 40 | 40 |
| 80 | 77 | 40 | 40 | 45 | 40 | 40 | 40 | 40 | 40 | 40 |
| 81 | 78 | 40 | 40 | 47 | 40 | 40 | 40 | 40 | 40 | 40 |
| 82 | 79 | 40 | 40 | 48 | 40 | 40 | 40 | 40 | 40 | 40 |
| 83 | 80 | 40 | 40 | 50 | 40 | 40 | 40 | 40 | 40 | 40 |
| 84 | 81 | 40 | 40 | 51 | 40 | 40 | 40 | 40 | 40 | 40 |
| 85 | 82 | 40 | 40 | 52 | 40 | 40 | 40 | 40 | 40 | 40 |
| 86 | 83 | 40 | 40 | 53 | 40 | 40 | 40 | 40 | 40 | 40 |
| 87 | 84 | 40 | 40 | 54 | 40 | 40 | 40 | 40 | 40 | 40 |
| 88 | 85 | 40 | 40 | 55 | 40 | 40 | 40 | 40 | 40 | 40 |
| 89 | 86 | 40 | 40 | 56 | 40 | 40 | 40 | 40 | 40 | 40 |
| 90 | 87 | 40 | 40 | 56 | 40 | 40 | 40 | 40 | 40 | 40 |
| 91 | 89 | 40 | 40 | 57 | 40 | 40 | 40 | 40 | 40 | 40 |
| 92 | 90 | 40 | 40 | 57 | 40 | 40 | 40 | 40 | 40 | 40 |
| 93 | 91 | 40 | 40 | 58 | 40 | 40 | 40 | 40 | 40 | 40 |
| 94 | 92 | 40 | 40 | 58 | 40 | 40 | 40 | 40 | 40 | 40 |
| 95 | 93 | 40 | 40 | 59 | 40 | 40 | 40 | 40 | 40 | 40 |
| 96 | 94 | 40 | 40 | 59 | 40 | 40 | 40 | 40 | 40 | 40 |
| 97 | 95 | 40 | 40 | 60 | 40 | 40 | 40 | 40 | 40 | 40 |
| 98 | 96 | 40 | 40 | 61 | 40 | 41 | 40 | 40 | 40 | 40 |
| 99 | 97 | 40 | 40 | 61 | 40 | 41 | 40 | 40 | 41 | 40 |
| 100 | 98 | 40 | 40 | 62 | 40 | 41 | 40 | 40 | 41 | 40 |
| 101 | 99 | 40 | 40 | 62 | 41 | 41 | 40 | 40 | 41 | 40 |
| 102 | 100 | 40 | 40 | 63 | 41 | 41 | 40 | 40 | 41 | 40 |
| 103 | 102 | 40 | 40 | 63 | 41 | 41 | 40 | 40 | 41 | 40 |
| 104 | 103 | 40 | 40 | 64 | 41 | 41 | 40 | 40 | 41 | 40 |
| 105 | 104 | 40 | 40 | 64 | 41 | 41 | 40 | 40 | 41 | 40 |
| 106 | 105 | 40 | 40 | 65 | 41 | 41 | 40 | 40 | 41 | 41 |
| 107 | 105 | 40 | 40 | 65 | 41 | 41 | 41 | 40 | 41 | 41 |
| 108 | 106 | 41 | 40 | 66 | 41 | 41 | 41 | 40 | 41 | 41 |
| 109 | 107 | 41 | 40 | 66 | 41 | 41 | 41 | 40 | 41 | 41 |
| 110 | 109 | 41 | 41 | 67 | 41 | 43 | 41 | 40 | 41 | 41 |
| 111 | 110 | 41 | 41 | 67 | 41 | 45 | 41 | 40 | 41 | 41 |
| 112 | 111 | 41 | 41 | 68 | 41 | 47 | 41 | 40 | 41 | 41 |
| 113 | 112 | 41 | 41 | 69 | 41 | 48 | 41 | 40 | 41 | 41 |
| 114 | 113 | 41 | 41 | 70 | 41 | 49 | 41 | 41 | 42 | 41 |
| 115 | 114 | 41 | 41 | 70 | 41 | 50 | 41 | 41 | 45 | 41 |
| 116 | 115 | 41 | 41 | 71 | 41 | 51 | 41 | 41 | 47 | 41 |
| 117 | 117 | 41 | 41 | 71 | 43 | 52 | 41 | 41 | 49 | 41 |
| 118 | 118 | 41 | 41 | 72 | 45 | 53 | 41 | 41 | 50 | 41 |
| 119 | 119 | 41 | 41 | 73 | 48 | 54 | 41 | 41 | 52 | 41 |
| 120 | 120 | 41 | 41 | 73 | 50 | 54 | 41 | 41 | 53 | 43 |
| 121 | 121 | 41 | 41 | 74 | 51 | 55 | 41 | 41 | 54 | 45 |
| 122 | 122 | 41 | 41 | 74 | 52 | 55 | 41 | 41 | 54 | 47 |
| 123 | 123 | 44 | 41 | 75 | 53 | 56 | 43 | 41 | 55 | 49 |
| 124 | 125 | 47 | 41 | 75 | 54 | 56 | 45 | 41 | 56 | 50 |

| SSS | GT | GM | EL | CL | MM | SC | CO | FA | OF | ST |
|---|---|---|---|---|---|---|---|---|---|---|
| 125 | 126 | 50 | 43 | 76 | 54 | 57 | 48 | 41 | 56 | 51 |
| 126 | 128 | 51 | 45 | 76 | 55 | 57 | 50 | 41 | 57 | 52 |
| 127 | 130 | 53 | 48 | 77 | 56 | 58 | 52 | 41 | 57 | 53 |
| 128 | 135 | 54 | 50 | 78 | 56 | 58 | 53 | 44 | 58 | 55 |
| 129 | 143 | 54 | 51 | 78 | 57 | 59 | 54 | 47 | 58 | 56 |
| 130 | 155 | 55 | 52 | 79 | 57 | 59 | 55 | 50 | 59 | 56 |
| 131 | 155 | 56 | 53 | 80 | 58 | 59 | 56 | 51 | 59 | 57 |
| 132 | 155 | 57 | 54 | 80 | 58 | 60 | 57 | 53 | 60 | 57 |
| 133 | 155 | 57 | 55 | 81 | 59 | 60 | 57 | 54 | 60 | 58 |
| 134 | 155 | 58 | 56 | 82 | 59 | 61 | 58 | 55 | 61 | 59 |
| 135 | 155 | 59 | 57 | 83 | 60 | 61 | 59 | 56 | 61 | 60 |
| 136 | 155 | 59 | 57 | 84 | 61 | 62 | 59 | 56 | 62 | 61 |
| 137 | 155 | 60 | 58 | 85 | 61 | 62 | 60 | 57 | 62 | 61 |
| 138 | 155 | 61 | 59 | 85 | 62 | 63 | 61 | 57 | 63 | 62 |
| 139 | 155 | 61 | 59 | 86 | 62 | 63 | 61 | 58 | 63 | 62 |
| 140 | 155 | 62 | 60 | 87 | 63 | 64 | 62 | 59 | 64 | 63 |
| 141 | 155 | 62 | 61 | 88 | 63 | 64 | 62 | 59 | 64 | 64 |
| 142 | 155 | 63 | 62 | 89 | 64 | 65 | 62 | 60 | 65 | 64 |
| 143 | 155 | 64 | 62 | 90 | 64 | 65 | 63 | 61 | 65 | 65 |
| 144 | 155 | 65 | 63 | 91 | 65 | 65 | 64 | 62 | 66 | 65 |
| 145 | 155 | 65 | 64 | 92 | 65 | 66 | 65 | 62 | 66 | 66 |
| 146 | 155 | 66 | 65 | 92 | 66 | 66 | 65 | 63 | 67 | 66 |
| 147 | 155 | 67 | 65 | 93 | 66 | 66 | 66 | 64 | 67 | 67 |
| 148 | 155 | 68 | 66 | 94 | 67 | 67 | 66 | 65 | 68 | 68 |
| 149 | 155 | 68 | 67 | 95 | 68 | 67 | 67 | 65 | 68 | 69 |
| 150 | 155 | 69 | 68 | 95 | 68 | 68 | 68 | 66 | 69 | 69 |
| 151 | 155 | 70 | 69 | 96 | 69 | 68 | 68 | 66 | 69 | 70 |
| 152 | 155 | 70 | 70 | 97 | 69 | 69 | 69 | 67 | 70 | 70 |
| 153 | 155 | 71 | 70 | 98 | 70 | 69 | 69 | 68 | 70 | 71 |
| 154 | 155 | 71 | 71 | 99 | 70 | 70 | 70 | 69 | 71 | 71 |
| 155 | 155 | 72 | 72 | 100 | 71 | 70 | 70 | 70 | 71 | 72 |
| 156 | 155 | 73 | 73 | 100 | 71 | 71 | 71 | 70 | 72 | 73 |
| 157 | 155 | 74 | 73 | 101 | 72 | 71 | 71 | 71 | 72 | 73 |
| 158 | 155 | 74 | 74 | 102 | 73 | 72 | 72 | 72 | 73 | 74 |
| 159 | 155 | 75 | 74 | 103 | 73 | 72 | 73 | 73 | 73 | 74 |
| 160 | 155 | 75 | 75 | 104 | 74 | 73 | 74 | 74 | 74 | 75 |
| 161 | 155 | 76 | 75 | 105 | 74 | 73 | 74 | 74 | 74 | 75 |
| 162 | 155 | 76 | 76 | 106 | 75 | 74 | 75 | 75 | 75 | 76 |
| 163 | 155 | 78 | 76 | 107 | 75 | 74 | 75 | 75 | 75 | 76 |
| 164 | 155 | 78 | 77 | 108 | 76 | 75 | 76 | 76 | 76 | 77 |
| 165 | 155 | 79 | 78 | 109 | 76 | 75 | 76 | 76 | 76 | 77 |
| 166 | 155 | 79 | 78 | 110 | 77 | 75 | 77 | 77 | 76 | 78 |
| 167 | 155 | 80 | 79 | 111 | 77 | 76 | 77 | 78 | 77 | 79 |
| 168 | 155 | 80 | 80 | 112 | 78 | 76 | 78 | 78 | 77 | 79 |
| 169 | 155 | 81 | 80 | 113 | 79 | 76 | 79 | 79 | 78 | 80 |
| 170 | 155 | 81 | 81 | 113 | 79 | 77 | 79 | 79 | 78 | 80 |
| 171 | 155 | 82 | 81 | 114 | 80 | 77 | 80 | 80 | 79 | 81 |
| 172 | 155 | 82 | 82 | 115 | 80 | 78 | 80 | 81 | 79 | 81 |
| 173 | 155 | 82 | 83 | 116 | 81 | 78 | 81 | 82 | 80 | 82 |
| 174 | 155 | 83 | 84 | 117 | 81 | 79 | 82 | 83 | 81 | 83 |
| 175 | 155 | 84 | 85 | 118 | 82 | 79 | 82 | 84 | 81 | 84 |
| 176 | 155 | 84 | 85 | 119 | 83 | 80 | 83 | 84 | 82 | 84 |
| 177 | 155 | 85 | 86 | 120 | 84 | 80 | 84 | 85 | 82 | 85 |
| 178 | 155 | 86 | 87 | 121 | 84 | 81 | 85 | 86 | 83 | 85 |
| 179 | 155 | 86 | 88 | 121 | 85 | 82 | 85 | 87 | 84 | 86 |
| 180 | 155 | 87 | 88 | 122 | 85 | 82 | 86 | 87 | 85 | 87 |
| 181 | 155 | 88 | 89 | 123 | 86 | 83 | 87 | 88 | 85 | 88 |
| 182 | 155 | 88 | 90 | 123 | 87 | 84 | 87 | 89 | 86 | 88 |
| 183 | 155 | 89 | 91 | 124 | 87 | 84 | 88 | 90 | 86 | 89 |
| 184 | 155 | 90 | 91 | 125 | 88 | 85 | 89 | 90 | 87 | 90 |
| 185 | 155 | 90 | 92 | 126 | 89 | 85 | 89 | 91 | 88 | 91 |
| 186 | 155 | 91 | 92 | 127 | 90 | 86 | 90 | 92 | 89 | 91 |
| 187 | 155 | 91 | 93 | 127 | 90 | 87 | 91 | 92 | 89 | 92 |
| 188 | 155 | 92 | 93 | 128 | 91 | 88 | 92 | 93 | 90 | 92 |
| 189 | 155 | 92 | 94 | 129 | 91 | 88 | 92 | 94 | 90 | 93 |
| 190 | 155 | 93 | 94 | 130 | 92 | 89 | 93 | 94 | 91 | 93 |

| SSS | GT | GM | EL | CL | MM | SC | CO | FA | OF | ST |
|---|---|---|---|---|---|---|---|---|---|---|
| 191 | 155 | 93 | 95 | 131 | 92 | 90 | 93 | 95 | 91 | 94 |
| 192 | 155 | 94 | 95 | 133 | 93 | 91 | 94 | 95 | 92 | 94 |
| 193 | 155 | 94 | 96 | 135 | 93 | 92 | 94 | 96 | 92 | 95 |
| 194 | 155 | 95 | 97 | 137 | 94 | 92 | 95 | 96 | 93 | 95 |
| 195 | 155 | 96 | 98 | 138 | 94 | 93 | 95 | 97 | 93 | 96 |
| 196 | 155 | 96 | 98 | 141 | 95 | 93 | 96 | 98 | 94 | 96 |
| 197 | 155 | 97 | 99 | 144 | 95 | 94 | 96 | 98 | 95 | 97 |
| 198 | 155 | 98 | 99 | 147 | 96 | 94 | 97 | 99 | 95 | 98 |
| 199 | 155 | 98 | 100 | 149 | 96 | 95 | 98 | 99 | 96 | 98 |
| 200 | 155 | 99 | 100 | 152 | 97 | 96 | 98 | 100 | 96 | 99 |
| 201 | 155 | 99 | 101 | 155 | 98 | 96 | 99 | 100 | 97 | 99 |
| 202 | 155 | 100 | 101 | 155 | 98 | 97 | 100 | 101 | 98 | 100 |
| 203 | 155 | 100 | 102 | 155 | 99 | 98 | 100 | 102 | 98 | 100 |
| 204 | 155 | 101 | 102 | 155 | 99 | 99 | 101 | 102 | 99 | 101 |
| 205 | 155 | 101 | 103 | 155 | 100 | 99 | 101 | 103 | 99 | 101 |
| 206 | 155 | 102 | 103 | 155 | 100 | 100 | 102 | 103 | 100 | 102 |
| 207 | 155 | 102 | 104 | 155 | 101 | 100 | 102 | 104 | 100 | 103 |
| 208 | 155 | 103 | 104 | 155 | 102 | 101 | 103 | 104 | 101 | 103 |
| 209 | 155 | 103 | 105 | 155 | 103 | 102 | 103 | 105 | 102 | 104 |
| 210 | 155 | 104 | 105 | 155 | 103 | 103 | 104 | 105 | 103 | 104 |
| 211 | 155 | 104 | 106 | 155 | 104 | 103 | 104 | 106 | 103 | 105 |
| 212 | 155 | 105 | 106 | 155 | 104 | 104 | 105 | 107 | 104 | 105 |
| 213 | 155 | 105 | 107 | 155 | 105 | 104 | 105 | 107 | 104 | 106 |
| 214 | 155 | 106 | 107 | 155 | 105 | 105 | 106 | 108 | 105 | 107 |
| 215 | 155 | 107 | 108 | 155 | 106 | 106 | 107 | 108 | 106 | 107 |
| 216 | 155 | 107 | 109 | 155 | 107 | 107 | 108 | 109 | 107 | 108 |
| 217 | 155 | 108 | 109 | 155 | 107 | 107 | 109 | 109 | 107 | 109 |
| 218 | 155 | 109 | 110 | 155 | 108 | 108 | 109 | 110 | 108 | 109 |
| 219 | 155 | 109 | 110 | 155 | 109 | 109 | 110 | 111 | 109 | 110 |
| 220 | 155 | 110 | 111 | 155 | 110 | 110 | 111 | 111 | 110 | 111 |
| 221 | 155 | 111 | 111 | 155 | 111 | 111 | 111 | 112 | 111 | 112 |
| 222 | 155 | 112 | 112 | 155 | 112 | 112 | 112 | 112 | 112 | 112 |
| 223 | 155 | 113 | 112 | 155 | 112 | 113 | 113 | 113 | 113 | 113 |
| 224 | 155 | 113 | 113 | 155 | 113 | 113 | 113 | 113 | 113 | 113 |
| 225 | 155 | 114 | 113 | 155 | 114 | 114 | 114 | 114 | 114 | 114 |
| 226 | 155 | 114 | 114 | 155 | 114 | 115 | 114 | 114 | 115 | 114 |
| 227 | 155 | 115 | 114 | 155 | 115 | 116 | 115 | 115 | 116 | 115 |
| 228 | 155 | 116 | 115 | 155 | 116 | 117 | 116 | 115 | 116 | 115 |
| 229 | 155 | 116 | 115 | 155 | 116 | 118 | 116 | 116 | 117 | 116 |
| 230 | 155 | 117 | 116 | 155 | 117 | 118 | 117 | 116 | 118 | 116 |
| 231 | 155 | 117 | 116 | 155 | 118 | 119 | 117 | 117 | 119 | 117 |
| 232 | 155 | 118 | 117 | 155 | 118 | 120 | 118 | 117 | 120 | 117 |
| 233 | 155 | 118 | 117 | 155 | 119 | 121 | 119 | 118 | 121 | 118 |
| 234 | 155 | 119 | 118 | 155 | 120 | 121 | 120 | 118 | 121 | 118 |
| 235 | 155 | 119 | 118 | 155 | 121 | 122 | 121 | 119 | 122 | 119 |
| 236 | 155 | 120 | 118 | 155 | 121 | 122 | 121 | 119 | 123 | 119 |
| 237 | 155 | 120 | 119 | 155 | 122 | 123 | 122 | 120 | 123 | 120 |
| 238 | 155 | 121 | 119 | 155 | 123 | 123 | 122 | 120 | 124 | 120 |
| 239 | 155 | 121 | 120 | 155 | 123 | 124 | 123 | 121 | 124 | 121 |
| 240 | 155 | 122 | 120 | 155 | 124 | 124 | 123 | 121 | 125 | 121 |
| 241 | 155 | 122 | 121 | 155 | 124 | 125 | 124 | 121 | 125 | 122 |
| 242 | 155 | 122 | 121 | 155 | 125 | 126 | 124 | 122 | 126 | 122 |
| 243 | 155 | 123 | 121 | 155 | 126 | 126 | 125 | 122 | 127 | 123 |
| 244 | 155 | 123 | 122 | 155 | 126 | 127 | 126 | 123 | 127 | 123 |
| 245 | 155 | 123 | 122 | 155 | 127 | 127 | 126 | 123 | 128 | 123 |
| 246 | 155 | 124 | 123 | 155 | 127 | 128 | 127 | 123 | 129 | 124 |
| 247 | 155 | 124 | 123 | 155 | 128 | 129 | 127 | 124 | 130 | 124 |
| 248 | 155 | 125 | 123 | 155 | 129 | 130 | 128 | 124 | 131 | 125 |
| 249 | 155 | 125 | 124 | 155 | 130 | 131 | 128 | 125 | 133 | 125 |
| 250 | 155 | 126 | 124 | 155 | 131 | 133 | 129 | 125 | 135 | 126 |
| 251 | 155 | 126 | 124 | 155 | 133 | 134 | 130 | 126 | 137 | 126 |
| 252 | 155 | 127 | 125 | 155 | 135 | 135 | 130 | 126 | 141 | 127 |
| 253 | 155 | 127 | 125 | 155 | 137 | 136 | 131 | 127 | 144 | 127 |
| 254 | 155 | 128 | 126 | 155 | 138 | 137 | 133 | 127 | 147 | 128 |
| 255 | 155 | 129 | 126 | 155 | 141 | 138 | 135 | 128 | 150 | 129 |
| 256 | 155 | 130 | 127 | 155 | 143 | 141 | 136 | 128 | 152 | 130 |

| SSS | GT | GM | EL | CL | MM | SC | CO | FA | OF | ST |
|---|---|---|---|---|---|---|---|---|---|---|
| 257 | 155 | 131 | 127 | 155 | 145 | 144 | 137 | 129 | 153 | 131 |
| 258 | 155 | 132 | 128 | 155 | 148 | 147 | 138 | 130 | 155 | 132 |
| 259 | 155 | 133 | 129 | 155 | 150 | 149 | 139 | 130 | 155 | 133 |
| 260 | 155 | 135 | 130 | 155 | 151 | 150 | 141 | 131 | 155 | 135 |
| 261 | 155 | 137 | 131 | 155 | 153 | 151 | 143 | 133 | 155 | 136 |
| 262 | 155 | 138 | 132 | 155 | 155 | 152 | 144 | 134 | 155 | 138 |
| 263 | 155 | 141 | 133 | 155 | 155 | 153 | 145 | 135 | 155 | 141 |
| 264 | 155 | 143 | 134 | 155 | 155 | 154 | 147 | 136 | 155 | 145 |
| 265 | 155 | 145 | 135 | 155 | 155 | 155 | 149 | 137 | 155 | 147 |
| 266 | 155 | 147 | 137 | 155 | 155 | 155 | 150 | 138 | 155 | 150 |
| 267 | 155 | 149 | 141 | 155 | 155 | 155 | 151 | 139 | 155 | 153 |
| 268 | 155 | 151 | 145 | 155 | 155 | 155 | 152 | 141 | 155 | 155 |
| 269 | 155 | 153 | 147 | 155 | 155 | 155 | 152 | 142 | 155 | 155 |
| 270 | 155 | 155 | 150 | 155 | 155 | 155 | 153 | 143 | 155 | 155 |
| 271 | 155 | 155 | 153 | 155 | 155 | 155 | 154 | 145 | 155 | 155 |
| 272 | 155 | 155 | 155 | 155 | 155 | 155 | 154 | 147 | 155 | 155 |
| 273 | 155 | 155 | 155 | 155 | 155 | 155 | 155 | 149 | 155 | 155 |
| 274 | 155 | 155 | 155 | 155 | 155 | 155 | 155 | 150 | 155 | 155 |
| 275 | 155 | 155 | 155 | 155 | 155 | 155 | 155 | 151 | 155 | 155 |
| 276 | 155 | 155 | 155 | 155 | 155 | 155 | 155 | 152 | 155 | 155 |
| 277 | 155 | 155 | 155 | 155 | 155 | 155 | 155 | 153 | 155 | 155 |
| 278 | 155 | 155 | 155 | 155 | 155 | 155 | 155 | 153 | 155 | 155 |
| 279 | 155 | 155 | 155 | 155 | 155 | 155 | 155 | 154 | 155 | 155 |
| 280 | 155 | 155 | 155 | 155 | 155 | 155 | 155 | 155 | 155 | 155 |
| 281 | 155 | 155 | 155 | 155 | 155 | 155 | 155 | 155 | 155 | 155 |

# APPENDIX G

## ASVAB PROGRAM OUTPUT FILES

```
SSAN                    : 272598843
DATE OF BIRTH(YY/MM/DD) : 64/ 4/20
SEX                     : 1 - MALE
RACE                    : 2 - BLACK
DATE OF ENTRY(YY/MM/DD) : 82/ 2/16
HIGHEST YEAR OF EDUCATION : 1 YEAR OF HIGH SCHOOL - 3
ENTRY PAY GRADE         : E1  1
MOS                     : 11B10
35 TEST FORM            : ASVAB 5
AFQT PERCENTILE         : 47
SEPARATION PROGRAM DESIGNATOR: AKL
DATE OF SEPARATION(YY/MM/DD) : 83/ 2/27

                SUBTEST RAW SCORES
 GI  NO  AC  WK  AR  SP  MK  EI  MC  GS  SI  AI
 15  20   3  12   6  17  20  10   9   5  13  12

                SUBTEST STANDARD SCORES
 GI  NO  AD  WK  AR  SP  MK  EI  MC  GS  SI  AI
 66  39  21  39  36  59  67  34  46  36  48  50

        ARMY CLASSIFICATION BATTERY COMPOSITES
 CO  FA  MM  GM  CL  GT  EL  SC  ST  OF
 71 102  99  79  49  71  76  89  94 116
```

| | |
|---|---|
| SSAN | : 016532241 |
| DATE OF BIRTH(YY/MM/DD) | : 63/11/25 |
| SEX | : 1 - MALE |
| RACE | : 1 - WHITE |
| DATE OF ENTRY(YY/MM/DD) | : 81/ 9/20 |
| HIGHEST YEAR OF EDUCATION | : HIGH SCHOOL DIPLOMA - 6 |
| ENTRY PAY GRADE | : E1 1 |
| MOS | : 11B10 |
| 36 TEST FORM | : ASVAB 6 |
| AFQT PERCENTILE | : 87 |
| SEPARATION PROGRAM DESIGNATOR | : AAA |
| DATE OF SEPARATION(YY/MM/DD) | : 82/11/ 9 |

SUBTEST RAW SCORES

| GI | NO | AD | WK | AR | SP | MK | EI | MC | GS | SI | AI | CM | CA | CE | CC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 | 40 | 25 | 22 | 15 | 16 | 12 | 23 | 10 | 9 | 17 | 14 | 8 | 12 | 13 | 22 |

SUBTEST STANDARD SCORES

| GI | NO | AD | WK | AR | SP | MK | EI | MC | GS | SI | AI | CM | CA | CE | CC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 60 | 59 | 77 | 53 | 55 | 57 | 51 | 56 | 48 | 45 | 58 | 55 | 44 | 58 | 60 | 63 |

ARMY CLASSIFICATION BATTERY COMPOSITES

| CO | FA | MM | GM | CL | GT | EL | SC | ST | OF |
|---|---|---|---|---|---|---|---|---|---|
| 125 | 115 | 106 | 103 | 122 | 109 | 114 | 108 | 104 | 115 |

| | |
|---|---|
| SSAN | : 213865527 |
| DATE OF BIRTH(YY/MM/DD) | : 63/ 5/21 |
| SEX | : 2 - FEMALE |
| RACE | : 3 - OTHER |
| DATE OF ENTRY(YY/MM/DD) | : 82/10/ 7 |
| HIGHEST YEAR OF EDUCATION | : 1 YEAR OF COLLEGE - 7 |
| ENTRY PAY GRADE | : E2 2 |
| MOS | : 54E10 |
| 40 TEST FORM | : ASVAB 10 |
| AFQT PERCENTILE | : 92 |
| SEPARATION PROGRAM DESIGNATOR | : AAA |
| DATE OF SEPARATION(YY/MM/DD) | : 83/10/15 |

SUBTEST RAW SCORES

| GS | AR | WK | PC | NO | CS | AS | MK | MC | EI | VE |
|---|---|---|---|---|---|---|---|---|---|---|
| 24 | 22 | 30 | 14 | 45 | 79 | 25 | 20 | 24 | 19 | 48 |

SUBTEST STANDARD SCORES

| GS | AR | WK | PC | NO | CS | AS | MK | MC | EI | VE |
|---|---|---|---|---|---|---|---|---|---|---|
| 65 | 56 | 56 | 60 | 59 | 72 | 65 | 63 | 65 | 65 | 61 |

ARMY CLASSIFICATION BATTERY COMPOSITES

| CO | FA | MM | GM | CL | GT | EL | SC | ST | OF |
|---|---|---|---|---|---|---|---|---|---|
| 138 | 128 | 138 | 132 | 133 | 117 | 124 | 144 | 128 | 135 |

ERROR IN RECORD NUMBER:  4 WITH SSAN: 235442321
ERROR: TEST FORM INCORRECT, COLUMNS 33-34

| | |
|---|---|
| SSAN | : 235442321 |
| DATE OF BIRTH(YY/MM/DD) | : 63/ 5/23 |
| SEX | : 1 - MALE |
| RACE | : 1 - WHITE |
| DATE OF ENTRY(YY/MM/DD) | : 82/11/13 |
| HIGHEST YEAR OF EDUCATION | : HIGH SCHOOL DIPLOMA - 6 |
| ENTRY PAY GRADE | : E1 1 |
| MOS | : 11B10 |
| 41 TEST FORM | : ASVAB 10 |
| AFQT PERCENTILE | : 85 |
| SEPARATION PROGRAM DESIGNATOR | : AAA |
| DATE OF SEPARATION(YY/MM/DD) | : 83/11/10 |

SUBTEST RAW SCORES

| GS | AR | WK | PC | NO | CS | AS | MK | MC | EI | VE |
|---|---|---|---|---|---|---|---|---|---|---|
| 23 | 21 | 29 | 13 | 44 | 72 | 20 | 20 | 21 | 18 | 23 |

ERROR IN RECORD NUMBER: 5 WITH SSAN: 015342237
ERROR: CC INCORRECT, COLUMNS 67-68

| | |
|---|---|
| SSAN | : 015342237 |
| DATE OF BIRTH(YY/MM/DD) | : 64/ 8/ 9 |
| SEX | : 1 - MALE |
| RACE | : 1 - WHITE |
| DATE OF ENTRY(YY/MM/DD) | : 81/ 9/25 |
| HIGHEST YEAR OF EDUCATION | : HIGH SCHOOL DIPLOMA - 6 |
| ENTRY PAY GRADE | : E1 1 |
| MOS | : 11B10 |
| 37 TEST FORM | : ASVAB 7 |
| AFQT PERCENTILE | : 75 |
| SEPARATION PROGRAM DESIGNATOR | : AKL |
| DATE OF SEPARATION(YY/MM/DD) | : 84/ 9/15 |

SUBTEST RAW SCORES

| GI | NO | AD | WK | AR | SP | MK | EI | MC | GS | SI | AI | CM | CA | CE | CC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 | 39 | 25 | 21 | 15 | 16 | 12 | 23 | 11 | 12 | 17 | 13 | 10 | 12 | 13 | 32 |

SUBTEST RAW SCORES

| SSAN | GI | NO | AD | WK | AR | SP | MK | EI | MC | GS | SI | AI | CM | CA | CE | CC | PC | CS | AS | VE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 272598843 | 15 | 20 | 3 | 12 | 6 | 17 | 20 | 10 | 9 | 5 | 13 | 12 | | | | | | | | |
| 016532241 | 13 | 40 | 25 | 22 | 15 | 16 | 12 | 23 | 10 | 9 | 17 | 14 | 8 | 12 | 13 | 22 | | | | |
| 213865527 | | 24 | | 22 | 30 | | 14 | 45 | 79 | 25 | | | | | | | 20 | 24 | 19 | 48 |

SUBTEST STANDARD SCORES

| SSAN | GI | NO | AD | WK | AR | SP | MK | EI | MC | GS | SI | AI | CM | CA | CE | CC | PC | CS | AS | VE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 272598843 | 66 | 39 | 21 | 39 | 36 | 59 | 67 | 34 | 46 | 36 | 48 | 50 | | | | | | | | |
| 016532241 | 60 | 59 | 77 | 53 | 55 | 57 | 51 | 56 | 48 | 45 | 58 | 55 | 44 | 58 | 60 | 63 | | | | |
| 213865527 | | 59 | | 56 | 56 | | 63 | 65 | 65 | 65 | | | | | | | 60 | 72 | 65 | 61 |

ARMY CLASSIFICATION BATTERY COMPOSITES

| SSAN | AFQT | CO | FA | MM | GM | CL | GT | EL | SC | ST | OF |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 272598843 | 47 | 71 | 102 | 99 | 79 | 49 | 71 | 76 | 89 | 94 | 116 |
| 016532241 | 87 | 125 | 115 | 106 | 103 | 122 | 109 | 114 | 108 | 104 | 115 |
| 213865527 | 92 | 138 | 128 | 138 | 132 | 133 | 117 | 124 | 144 | 128 | 135 |

APPENDIX H

SPSS REGRESSION PROGRAM LISTING

```
DATA LIST       FIXED/ 1 SQT 11-15 AFQT 17-18
                CO 20-22 FA 24-26 MM 28-30 GM 32-34
                CL 36-38 GT  40-42 EL 44-46 SC 48-50
                ST 52-54 OF 56-58
VAR LABELS      SQT   SKILL QUALIFICATION TEST/
                AFQT  AFQT PERCENTILE/
                CO    COMBAT/
                FA    FIELD ARTILLERY/
                MM    MOTOR MAINTENANCE/
                GM    GENERAL MAINTENANCE/
                CL    CLERICAL/
                GT    GENERAL TECHNICAL/
                EL    ELECTRONIC/
                SC    SURVEILLANCE, COMMUNICATIONS/
                ST    SKILLED TECHNICAL/
                OF    OPERATOR AND FOOD HANDLER
NEW REGRESSION VARIABLES = SQT,CO TO OF/
                DEP = SQT/STEPWISE/
                RESIDUALS/CASEWISE = ALL/
                SCATTER = (*RESID,*PRED)/SAVE = RESID PRED/
READ INPUT DATA
427310253    19 58 121 113 123 120 116 104 121 111 109 120
520683135     5 48 108  97 114 114  89 104 107  99 109 110
527714668     8 70 105 103 112 113  95 117 113 100 107 108
539803606     3 66 106 102 109 107 109 109 105 111 112 114
553177646     6 26  98  91  91  94  89  89  87  94  94  93
560138625    17 44 114 112 107  99 106  94 101 108  92 101
560177925     5 28 101  98 102 105  78  95 103  84  99  93
573559886    11 70 114 109 112 109  98 117 110 104 113 116
455393568     5 25  96  84  88  82  81  89  93  81  96  71
039368355    14 95 118 125 115 118 122 124 125 128 126 105
092520162     6 21  90  65  91  89  84  87  85  81  64  82
096449837     3 60 106 111 107  99  99 112 112 101 111  88
121545078     3 21  91  98  82  83  38  75  96  81  91  80
255043799    15 35  82 110  80  83 114 111  92  87 102 108
426150571     9 12  93  66  80  75  70  60  85  70  69  66
441707290    14 23  85 109 106 101  96  82 100  87 105 114
257044264     3 21  77  78  67  64  84  87  78  75  76  66
260252797    14 75 109 105  98 108 113 113 101 111 113 100
265538874     6 15  82  71  90  87  82  78  89  73  78  71
455948594     7 18  82  91 105  99  92  85  99  77  82 112
508882857     5 77  95 125  97 113 123 126 116 116 128 100
050526224     8 25  85  92  85  87  84  80  90  84  93  88
220829366     2 41  83  79  73  78  82  98  81  91  87  71
251086870     6 53  82 106 109 109 101 115 106 100 105 110
423947244     7 44  91  84  81  65  96  96  81  91  75  80
565374369     7 38  82  95 107 103  81  98  99  92 100 108
235965486     2 31  90 111 105 104 101 108 104  87 107 102
562254590     6 38 106  92 102 110 102  98 105  98  98 102
END INPUT DATA
FINISH
```

APPENDIX I

SPSS REGRESSION MODEL PROGRAM LISTING

```
DATA LIST       FIXED/ 1 SSAN 1-9 SQT 11-15 AFQT 17-18
                CO 20-22 FA 24-26 MM 28-30 GM 32-34
                CL 36-38 GT 40-42 EL 44-46 SC 48-50
                ST 52-54 OF 56-58
VAR LABELS      SSAN  SOCIAL SECURITY NUMBER/
                SQT   SKILL QUALIFICATION TEST/
                AFQT  AFQT PERCENTILE/
                CO    COMBAT/
                FA    FIELD ARTILLERY/
                MM    MOTOR MAINTENANCE/
                GM    GENERAL MAINTENANCE/
                CL    CLERICAL/
                GT    GENERAL TECHNICAL/
                EL    ELECTRONIC/
                SC    SURVEILLANCE, COMMUNICATIONS/
                ST    SKILLED TECHNICAL/
                OF    OPERATOR AND FOOD HANDLER
COMPUTE         SQT=3+(0.085*GTT)
WRITE CASES     (F9.0,3X,F5.0) SSAN,SQT
READ INPUT DATA
427310253     15 58 121 113 123 120 116 104 121 111 109 120
520683135     13 48 108  97 114 114  89 104 107  99 109 110
527714668     21 70 105 103 112 113  95 117 113 100 107 108
5398C36C6     20 66 106 102 109 107 109 109 105 111 112 114
553177646      6 26  98  91  91  94  89  89  87  94  94  93
560138625     12 44 114 112 107  99 106  94 101 108  92 101
560177925      5 28 101  98 102 105  78  95 103  84  99  93
573559886     23 70 114 109 112 109  98 117 110 104 113 116
455393568      5 25  96  84  88  82  81  89  93  31  96  71
039368355     28 95 118 125 115 118 122 124 125 128 126 105
092520162      6 21  90  65  91  89  84  87  85  81  64  82
096449837     19 60 106 111 107  99  99 112 112 101 111  88
121545078      3 21  91  98  82  83  38  75  96  81  91  80
255043799      5 35  82 110  80  83 114 111  92  87 102 108
426150571      1 12  93  66  80  75  70  60  85  70  69  66
441707290      7 23  85 109 106 101  96  82 100  87 105 114
257044264      7 21  77  78  67  64  84  87  78  75  76  66
260252797     18 75 109 105  98 108 113 113 101 111 113 100
265538874      6 15  82  71  90  87  82  78  89  73  78  71
455548594      7 18  82  91 105  99  92  85  99  77  82 112
508882857     19 77  95 125  97 113 123 126 116 116 128 100
050526224     10 25  85  92  85  87  84  80  90  84  93  88
220829366     12 41  83  79  73  78  82  98  81  91  87  71
251C86870     16 53  82 106 109 109 101 115 106 100 105 110
423547244     13 44  91  84  81  65  96  96  81  91  75  80
565374369     10 38  82  95 107 103  81  98  99  92 100 108
235565486      9 31  90 111 105 104 101 108 104  87 107 102
562254590     11 38 106  92 102 110 102  98 105  98  98 102
END INPUT DATA
FINISH
```

VARIABLE LIST NUMBER 1. LISTWISE DELETION OF MISSING DATA.

EQUATION NUMBER 1.

DEPENDENT VARIABLE.. SQT SKILL QUALIFICATION TEST

BEGINNING BLOCK NUMBER 1. METHOD: STEPWISE

VARIABLE(S) ENTERED ON STEP NUMBER 1.. CL CLERICAL

| | |
|---|---|
| MULTIPLE R | 0.47852 |
| R SQUARE | 0.22898 |
| ADJUSTED R SQUARE | 0.19932 |
| STANDARD ERROR | 4.21011 |

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES |
|---|---|---|
| REGRESSION | 1 | 136.86306 |
| RESIDUAL | 26 | 460.85122 |

F = 7.72145 SIGNIF F = 0.0100

---------- VARIABLES IN THE EQUATION ----------

| VARIABLE | B | SE B | BETA | T | SIG T |
|---|---|---|---|---|---|
| CL | 0.16172 | 0.05820 | 0.47852 | 2.779 | 0.0100 |
| (CONSTANT) | -7.73595 | 5.61678 | | -1.377 | 0.1802 |

------

VARIAB
CO
FA
MM
GM
GTT
EL
SC
ST
OF

1SPSS BATCH SYSTEM

DEPENDENT VARIABLE.. SQT SKILL QUALIFICATION TEST

VARIABLE(S) ENTERED ON STEP NUMBER 2.. GT GENERAL TECHNICAL

| | |
|---|---|
| MULTIPLE R | 0.59073 |
| R SQUARE | 0.34897 |
| ADJUSTED R SQUARE | 0.29688 |
| STANDARD ERROR | 3.94529 |

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES |
|---|---|---|
| REGRESSION | 2 | 208.58148 |
| RESIDUAL | 25 | 389.13281 |

F = 6.70020 SIGNIF F = 0.0047

---------- VARIABLES IN THE EQUATION ----------

| VARIABLE | B | SE B | BETA | T | SIG T |
|---|---|---|---|---|---|
| CL | 0.29638 | 0.08313 | 0.87697 | 3.565 | 0.0015 |
| GT | -0.15531 | 0.07235 | -0.52797 | -2.147 | 0.0417 |
| (CONSTANT) | -5.34173 | 5.38036 | | -0.993 | 0.3303 |

------

VARIAB

CO
FA
MM
GM
EL
SC
ST
OF

# APPENDIX K

## SPSS REGRESSION MODEL PROGRAM OUTPUT

| SSAN | SQT |
|---|---|
| 427310080 | 12 |
| 520683008 | 12 |
| 527714560 | 13 |
| 539803392 | 12 |
| 553177600 | 11 |
| 560138496 | 11 |
| 560177920 | 11 |
| 573559808 | 13 |
| 455393536 | 11 |
| 039368352 | 14 |
| 092520160 | 10 |
| 096449824 | 13 |
| 121545072 | 9 |
| 255043792 | 12 |
| 426150400 | 8 |
| 441707264 | 10 |
| 257044256 | 10 |
| 260252784 | 13 |
| 265538864 | 10 |
| 455948544 | 10 |
| 508882688 | 14 |
| 050526224 | 10 |
| 220829360 | 11 |
| 251086864 | 13 |
| 423947008 | 11 |
| 565374208 | 11 |
| 235965472 | 12 |
| 562254336 | 11 |

APPENDIX L

ASVAB PROGRAM LISTING

```
C
C
C
```

```
C      CM              MAINTENANCE.
C      CA              ATTENTIVENESS.
C      CE              ELECTRONICS.
C      CC              COMBAT.
C      PC              PARAGRAPH COMPREHENSION.
C      CS              CODING SPEED.
C      AS              AUTOMOTIVE/SHOP.
C      VE              VERBAL.
C      CO              COMBAT.
C      FA              FIELD ARTILLERY.
C      EL              ELECTRCNICS.
C      OF              OPERATORS AND FOOD HANDLERS.
C      GM              GENERAL MAINTENANCE.
C      MM              MOTOR MAINTENANCE.
C      CL              CLERICAL.
C      ST              SKILLED TECHNICAL.
C      GT              GENERAL TECHNICAL.
C      SC              SURVEILLANCE/COMMUNICATION.
C      A5              ASVAB 5 CONVERSION TABLE.
C      A67             ASVAB 6/7 CONVERSION TABLE.
C      A8910           ASVAB 8/9/10 CONVERSION TABLE.
C      SSS             VARIABLE SUFFIX: SUBTEST STANDARD SCORE.
C      R               VARIABLE SUFFIX: VARIABLE AS A REAL NUMBER.
C      END             TRAILER VARIABLE
C
C----------------------
C     FILE DEFINITIONS
C----------------------
C
C      FILE 01         INPUT, ASVAB 5 COMPOSITE CONVERSION TABLE.
C      FILE 02         INPUT, ASVAB 6/7 COMPOSITE CONVERSION TABLE.
C      FILE 03         INPUT, ASVAB 8/9/10 COMPOSITE CONVERSION TABLE.
C      FILE 04         INPUT, THE DEMOGRAPHIC DATA AND THE RAW SCORES.
C      FILE 09         OUTPUT, THE SOLDIER FILE.
C      FILE 10         OUTPUT, THE ASVAB STANDARD SCORES.
C      FILE 11         OUTPUT, THE ASVAB RAW SCORES.
C      FILE 12         OUTPUT, THE ACB COMPOSITE SCORES.
C
C-----------------------
C      DECLARE VARIABLES
C-----------------------
C
       INTEGER DOBYY,DOBMM,DOBDD,SEX,RACE,DOEYY,DOEMM,DOEDD,ED,
      *GRADE,TEST,GS,AR,WK,PC,NO,CS,AS,MK,MC,EI,VE,DES,ETSYY,ETSMM,
      *ETSDD,GI,AD,SP,SI,AI,CM,CA,CE,CC,RAW1,RAW2,RAW3,RAW4,RAW5,RAW6,
      *RAW7,RAW8,RAW9,RAW10,RAW11,RAW12,RAW13,RAW14,RAW15,RAW16,I,GSSSS,
      *ARSSS,WKSSS,PCSSS,NOSSS,CSSSS,ASSSS,MKSSS,MCSSS,EISSS,VESSS,GISSS,
      *ADSSS,SPSSS,SISSS,AISSS,CMSSS,CASSS,CESSS,CCSSS,CO,FA,MM,GM,CL,GT
```

```
C
      INTEGER EL,SC,ST,OF,AFQT,MOS1,MOS2,J,K,A5(320,10),A67(111,10),
     *A8910(281,10),SSAN1,SSAN2,SSAN3,END,ERROR
C
      REAL CONVT,GIR,ADR,SPR,SIR,AIR,CMR,CAR,CER,CCR,GSR,ARR,WKR,PCR,
     *NOR,CSR,ASR,MKR,MCR,EIR,VER
C
C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C                                                                      C
C                                                                      C
C     ALGORITHM ASVAB IS THE MASTER ALGORITHM.  IT CONTAINS 7 SUB      C
C   ALGORITHMS.  ALGORITHM ASVAB INITIALIZES A COUNTER (I), INPUTS     C
C   THE CONVERSION TABLES FOR ACB COMPOSITE SCORES, AND WRITES THE     C
C   HEADINGS FOR ALL FILES.                                            C
C                                                                      C
C                                                                      C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C
C
C ALGORITHM ASVAB
C
C
      CALL TABLE(A5,A67,A8910,I,J,K)
C
C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C                                                                      C
C                                                                      C
C     ALGORITHM INPUT SOLDIER DATA READS THE SOLDIER DEMOGRAPHIC DATA  C
C   AND THE ASVAB RAW SCORES.                                          C
C                                                                      C
C                                                                      C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C
C
C   ALGORITHM INPUT SOLDIER DATA
C
      END = 0
C
5     CONTINUE
C
      CALL IN(SSAN1,SSAN2,SSAN3,DOBYY,DOBMM,DOBDD,SEX,RACE,DOEYY,
     *DOEMM,DOEDD,ED,GRADE,MOS1,MOS2,TEST,AFQT,RAW1,RAW2,RAW3,RAW4,RAW5,
     *RAW6,RAW7,RAW8,RAW9,RAW10,RAW11,RAW12,RAW13,RAW14,RAW15,RAW16,END,
     *DES,ETSYY,ETSMM,ETSDD,GS,AR,MK,MC,EI,VE,GI,AD,SP,SI,AI,CM,CA,CE,
     *CC,WK,PC,NC,CS,AS)
C
```

```
C-----------------------------------------
C      TERMINATE PROGRAM AFTER LAST CARD
C-----------------------------------------
C
       IF(END .EQ. 1) GO TO 280
C
       I=I+1
C
C    END ALGORITHM INPUT SOLDIER DATA
C
C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C                                                                      C
C                                                                      C
C      ALGORITHM VALIDATE SOLDIER DATA VALIDATES THE INPUT DATA BY     C
C    MAKING RANGE CHECKS ON THE FOLLOWING VARIABLES: DOB, SEX,RACE,    C
C    DOE,ED,TEST,GS, AR, MK, MC, EI, VE, GI, AD, SP, SI, AI,CM, CA,    C
C    CE, CC ETS.                                                       C
C                                                                      C
C                                                                      C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C
C
C    ALGORITHM VALIDATE SOLDIER DATA
C
       ERROR=0
C
       CALL VAL(SSAN1,SSAN2,SSAN3,DOBYY,DOBMM,DOBDD,SEX,RACE,DOEYY,
      *DOEMM,DOEDD,ED,TEST,GS,AR,MK,MC,EI,VE,GI,AD,SP,SI,AI,CM,CA,CE,
      *CC,WK,PC,NC,CS,AS,ETSYY,ETSMM,ETSDD,I,ERROR)
C
C  END ALGORITHM VALIDATE SOLDIER DATA
C
C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C                                                                      C
C                                                                      C
C      ALGORITHM OUTPUT SOLDIER DATA PRINTS, OR 'ECHOS', THE INPUT     C
C    DATA FOR VALICATION PURPOSES.                                     C
C                                                                      C
C                                                                      C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C
C
C    ALGCRITHM OUTPUT SOLDIER DATA
C
       CALL ECHO(SSAN1,SSAN2,SSAN3,DOBYY,DOBMM,DOBDD,SEX,RACE,DOEYY,
      *DOEMM,DOEDD,ED,GRADE,MOS1,MOS2,TEST,AFQT,DES,ETSYY,ETSMM,ETSDD,
```

```
     *GS,AR,MK,MC,EI,VE,GI,AD,SP,SI,AI,CM,CA,CE,CC,WK,PC,NO,CS,AS)
C
      IF(ERROR .EQ. 1) GO TO 5
C
CC    END ALGORITHM OUTPUT SOLDIER DATA
CC
C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C                                                                      C
C                                                                      C
C     ALGORITHM SUBTEST STANDARD SCORES CONVERTS THE SUBTEST RAW       C
C   SCORES TO SUBTEST STANDARD SCORES.                                 C
C                                                                      C
C                                                                      C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C
CCC   ALGORITHM SUBTEST STANDARD SCORES
CCC
C
      CALL SSS(GI,AD,SP,SI,AI,CM,CA,CE,CC,GS,AR,WK,PC,NO,CS,AS,MK,MC,
     *EI,VE,TEST,GISSS,ADSSS,SPSSS,SISSS,AISSS,CMSSS,CASSS,CESSS,
     *CCSSS,GSSSS,ARSSS,WKSSS,PCSSS,NOSSS,CSSSS,ASSSS,MKSSS,MCSSS,
     *EISSS,VESSS)
C
CCC   END ALGORITHM SUBTEST STANDARD SCORES
CCC
C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C                                                                      C
C                                                                      C
C     ALGORITHM APTITUDE AREA COMPOSITES COMPUTES THE ACB COMPOSITE    C
C   SCORES.                                                            C
C                                                                      C
C                                                                      C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C
CCC
C     ALGORITHM APTITUDE AREA COMPOSITES
C
      CALL COMP(GSSSS,ARSSS,WKSSS,PCSSS,NOSSS,CSSSS,ASSSS,MKSSS,
     *MCSSS,EISSS,VESSS,GISSS,ADSSS,SPSSS,SISSS,AISSS,CMSSS,
     *CASSS,CESSS,CCSSS,GS,AR,WK,PC,NO,CS,AS,MK,MC,EI,VE,GI,AD,SP,
     *SI,AI,CM,CE,CA,CC,CO,FA,EL,OF,GM,MM,CL,GT,ST,SC,TEST)
C
C
```

```
C
C    END ALGORITHM APTITUDE AREA COMPOSITES
C
C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C                                                                             C
C                                                                             C
C      ALGORITHM ACB CONVERTS THE ACB SCORES USING THE CONVERSION             C
C    TABLES  A5, A67, A8910, INTO STANDARD SCORES.                            C
C                                                                             C
C                                                                             C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C
C
C    ALGORITHM ACB
C
      CALL ACB(A5,A67,A8910,TEST,GT,GM,EL,CL,MM,SC,CO,FA,OF,ST)
C
C    END ALGORITHM ACB
C
C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C                                                                             C
C                                                                             C
C      ALGORITHM OUTPUT WRITES THE SUBTEST RAW SCORES, THE SUBTEST            C
C    STANDARD SCORES, AND THE ACB COMPOSITE SCORES TO SUMMARY FILES.          C
C                                                                             C
C                                                                             C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C
C    ALGORITHM OUTPUT
C
C
C
      CALL OUT(SSAN1,SSAN2,SSAN3,AFQT,GSSSS,ARSSS,MKSSS,MCSSS,
     *EISSS,VESSS,GISSS,ADSSS,SPSSS,SISSS,AISSS,CMSSS,CASSS,CESSS,
     *CCSSS,NOSSS,ASSSS,WKSSS,CSSSS,PCSSS,TEST,CO,FA,MM,GM,CL,GT,
     *EL,SC,ST,OF,GS,AR,MK,MC,EI,VE,GI,AD,SP,SI,AI,CM,CA,CE,CC,WK,PC,
     *NO,CS,AS)
C
C    END ALGORITHM OUTPUT
C
C
      GO TO 5
280   CONTINUE
C
C
```

```
C  END ALGORITHM ASVAB
C
C
      STOP
      END
C
C
C
C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C                                SUBPROGRAMS                                   C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C
C
C
C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C                                                                             C
C                                                                             C
C   .   SUBROUTINE TABLE INITIALIZES A COUNTER, READS IN THE CONVERSION       C
C     TABLES FROM FILES 1, 2, AND 3, AND PRINTS FILE HEADINGS FOR FILES       C
C     10, 11, AND 12.                                                         C
C                                                                             C
C                                                                             C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C
C
      SUBROUTINE TABLE(A5,A67,A8910,I,J,K)
C
      INTEGER A5(320,10), A67(111,10), A8910(281,10),I,J,K
C
C-------------------------
C     INITIALIZE COUNTER
C-------------------------
C
      I=0
C
C----------------------------
C     INPUT CONVERSION TABLES
C----------------------------
C
C
C---------------
C     ASVAB 5
C---------------
C
```

```
      DO 1 J=1,320
         READ(1,499) (A5(J,K),K=1,10)
1     CONTINUE
C
C-----------------
C     ASVAB 6/7
C-----------------
C
      DO 2 J=1,111
         READ(2,499) (A67(J,K),K=1,10)
2     CONTINUE
C
C-----------------
C     ASVAB 8/9/10
C-----------------
C
      DO 3 J=1,281
         READ(3,499) (A8910(J,K),K=1,10)
3     CONTINUE
C
C--------------------
C     PRINT HEADINGS
C--------------------
C
      WRITE(10,890)
      WRITE(10,917)
      WRITE(11,871)
      WRITE(11,917)
      WRITE(12,910)
      WRITE(12,916)
      RETURN
C
499   FORMAT(10I5)
871   FORMAT(/16X,'SUBTEST RAW SCORES')
890   FORMAT(/12X,'SUBTEST STANDARD SCORES')
910   FORMAT(/6X, 'ARMY CLASSIFICATION BATTERY COMPOSITES')
916   FORMAT(' SSAN',11X,'AFQT CO  FA  MM  GM  CL  GT  EL  SC  ST  OF')
917   FORMAT(' SSAN          GI NO AD WK AR SP MK EI MC GS SI AI CM CA CE
     *CC PC CS AS VE')
      END
C
C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C                                                                      C
C                                                                      C
C     SUBROUTINE IN INPUTS THE SOLDIER DEMOGRAPHIC DATA AND THE RAW    C
C   SCORES FROM FILE 4.                                                C
C                                                                      C
```

```
C                                                                       C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C
C
      SUBROUTINE IN(SSAN1,SSAN2,SSAN3,DOBYY,DOBMM,DOBDD,SEX,RACE,DOEYY,
     *DOEMM,DOEDD,ED,GRADE,MOS1,MOS2,TEST,AFQT,RAW1,RAW2,RAW3,RAW4,RAW5,
     *RAW6,RAW7,RAW8,RAW9,RAW10,RAW11,RAW12,RAW13,RAW14,RAW15,RAW16,END,
     *DES,ETSYY,ETSMM,ETSDD,GS,AR,MK,MC,EI,VE,GI,AD,SP,SI,AI,CM,CA,CE,
     *CC,WK,PC,NO,CS,AS)
C
      INTEGER SSAN1,SSAN2,SSAN3,DOBYY,DOBMM,DOBDD,SEX,RACE,DOEYY,
     *DOEMM,DOEDD,ED,GRADE,MOS1,MOS2,TEST,AFQT,RAW1,RAW2,RAW3,RAW4,RAW5,
     *RAW6,RAW7,RAW8,RAW9,RAW10,RAW11,RAW12,RAW13,RAW14,RAW15,RAW16,END,
     *DES,ETSYY,ETSMM,ETSDD,GS,AR,MK,MC,EI,VE,GI,AD,SP,SI,AI,CM,CA,CE,
     *CC,WK,PC,NO,CS,AS
C
C-----------------------------------------
C     INPUT DEMOGRAPHIC DATA AND RAW SCORES
C-----------------------------------------
C
      READ(4,500,END=100) SSAN1,SSAN2,SSAN3,DOBYY,DOBMM,DOBDD,SEX,RACE,
     *DOEYY,DOEMM,DOEDD,ED,GRADE,MOS1,MOS2,TEST,AFQT,RAW1,RAW2,RAW3,
     *RAW4,RAW5,RAW6,RAW7,RAW8,RAW9,RAW10,RAW11,RAW12,RAW13,RAW14,RAW15,
     *RAW16,CES,ETSYY,ETSMM,ETSDD
C
C
C-----------------------------------
C     ASSIGN RAW SCORES TO VARIABLES
C-----------------------------------
C
C
C------------------
C     ASVAB 8/9/10
C------------------
C
      IF(TEST .LE. 37) GO TO 6
         GS=RAW1
         AR=RAW2
         WK=RAW3
         PC=RAW4
         NO=RAW5
         CS=RAW6
         AS=RAW7
         MK=RAW8
         MC=RAW9
         EI=RAW10
         VE=RAW11
      GO TO 7
```

```
C
C-----------------
C      ASVAB 5/6/7
C-----------------
C
6      CONTINUE
          GI=RAW1
          NO=RAW2
          AD=RAW3
          WK=RAW4
          AR=RAW5
          SP=RAW6
          MK=RAW7
          EI=RAW8
          MC=RAW9
          GS=RAW10
          SI=RAW11
          AI=RAW12
          CM=RAW13
          CA=RAW14
          CE=RAW15
          CC=RAW16
7      CONTINUE
C
       RETURN
100    END = 1
       RETURN
C
500    FORMAT(3A3,3I2,2I1,5I2,A4,A1,18I2,2X,A3,3I2)
       END
C
C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C                                                                     C
C                                                                     C
C      SUBROUTINE VAL VALIDATES THE DEMOGRAPHIC DATA AND THE RAW      C
C    SCORES.  IF AN ERROR IS FOUND IT TERMINATES PROCESSING OF THE    C
C    RECORD.                                                          C
C                                                                     C
C                                                                     C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C
C
       SUBROUTINE VAL(SSAN1,SSAN2,SSAN3,DOBYY,DOBMM,DOBDD,SEX,RACE,
      *DOEYY,DOEMM,DOEDD,ED,TEST,GS,AR,MK,MC,EI,VE,GI,AD,SP,SI,AI,
      *CM,CA,CE,CC,WK,PC,NO,CS,AS,ETSYY,ETSMM,ETSDD,I,ERROR)
C
       INTEGER SSAN1,SSAN2,SSAN3,DOBYY,DOBMM,DOBDD,SEX,RACE,DOEYY,
```

```
     *DOEMM,DOEDD,ED,TEST,GS,AR,MK,MC,EI,VE,GI,AD,SP,SI,AI,CM,CA,CE,
     *CC,WK,PC,NO,CS,AS,ETSYY,ETSMM,ETSDD,I,ERROR
C
C----------------------------
C     VALIDATE DATE OF BIRTH
C----------------------------
C
      IF(DOBYY .GT. 31) GO TO 8
         WRITE(9,510) I,SSAN1,SSAN2,SSAN3
         WRITE(9,515)
         ERROR = 1
8     CONTINUE
C
C------------------
C     VALIDATE SEX
C------------------
C
      IF((SEX .EQ. 1) .OR.(SEX .EQ. 2)) GO TO 9
         WRITE(9,510) I,SSAN1,SSAN2,SSAN3
         WRITE(9,520)
         ERROR = 1
9     CONTINUE
C
C--------------------
C     VALIDATE RACE
C--------------------
C
      IF((RACE .EQ. 1).OR.(RACE .EQ.2).OR.(RACE .EQ. 3)) GO TO 10
         WRITE(9,510) I,SSAN1,SSAN2,SSAN3
         WRITE(9,525)
         ERROR = 1
10    CONTINUE
C
C----------------------------
C     VALIDATE DATE OF ENTRY
C----------------------------
C
      IF(DOEYY .GT. 31) GO TO 11
         WRITE(9,510) I,SSAN1,SSAN2,SSAN3
         WRITE(9,530)
         ERROR = 1
11    CONTINUE
C
C-------------------------------------
C     VALIDATE HIGHEST YEAR OF EDUCATION
C-------------------------------------
C
      IF((ED .GE. 1) .OR. (ED .LE. 13)) GO TO 12
```

```
         WRITE(9,510) I,SSAN1,SSAN2,SSAN3
         WRITE(9,535)
         ERROR = 1
12    CONTINUE
C
C-------------------------
C     VALIDATE TEST VERSION
C-------------------------
C
      IF((TEST .GE. 35) .AND.(TEST .LE. 40)) GO TO 13
         WRITE(9,510) I, SSAN1,SSAN2,SSAN3
         WRITE(9,540)
         ERROR = 1
13    CONTINUE
C
C-------------------------------
C     VALIDATE SUBTEST RAW SCORES
C-------------------------------
C
C
C--------------------
C        ASVAB 5/6/7
C--------------------
      IF(TEST .GT. 37) GO TO 30
         IF(GI .LE. 15) GO TO 14
            WRITE(9,510) I,SSAN1,SSAN2,SSAN3
            WRITE(9,545)
            ERROR = 1
14       CONTINUE
         IF(NO .LE. 50) GO TO 15
            WRITE(9,510) I,SSAN1,SSAN2,SSAN3
            WRITE(9,550)
            ERROR = 1
15       CONTINUE
         IF(AD .LE. 30) GO TO 16
            WRITE(9,510) I,SSAN1,SSAN2,SSAN3
            WRITE(9,555)
            ERROR = 1
16       CONTINUE
         IF(WK .LE. 30) GO TO 17
            WRITE(9,510) I,SSAN1,SSAN2,SSAN3
            WRITE(9,560)
            ERROR = 1
17       CONTINUE
         IF(AR .LE. 20) GO TO 18
            WRITE(9,510) I,SSAN1,SSAN2,SSAN3
            WRITE(9,565)
            ERROR = 1
```

```
18      CONTINUE
        IF(SP .LE. 20) GO TO 19
           WRITE(9,510) I, SSAN1,SSAN2,SSAN3
           WRITE(9,570)
           ERROR = 1
19      CONTINUE
        IF(MK .LE. 20) GO TO 20
           WRITE(9,510) I,SSAN1,SSAN2,SSAN3
           WRITE(9,575)
           ERROR = 1
20      CONTINUE
        IF(EI .LE. 30) GO TO 21
           WRITE(9,510) I,SSAN1,SSAN2,SSAN3
           WRITE(9,580)
           ERROR = 1
21      CONTINUE
        IF(MC .LE. 20) GO TO 22
           WRITE(9,510) I,SSAN1,SSAN2,SSAN3
           WRITE(9,585)
           ERROR = 1
22      CONTINUE
        IF(GS .LE. 20) GO TO 23
           WRITE(9,510) I,SSAN1,SSAN2,SSAN3
           WRITE(9,590)
           ERROR = 1
23      CONTINUE
        IF(SI .LE. 20) GO TO 24
           WRITE(9,510) I,SSAN1,SSAN2,SSAN3
           WRITE(9,595)
           ERROR = 1
24      CONTINUE
        IF(AI .LE. 20) GO TO 25
           WRITE(9,510) I, SSAN1,SSAN2,SSAN3
           WRITE(9,600)
           ERROR = 1
25      CONTINUE
        IF(CM .LE. 20) GO TO 26
           WRITE(9,510) I,SSAN1,SSAN2,SSAN3
           WRITE(9,605)
           ERROR = 1
26      CONTINUE
        IF(CA .LE. 20) GO TO 27
           WRITE(9,510) I,SSAN1,SSAN2,SSAN3
           WRITE(9,610)
           ERROR = 1
27      CONTINUE
        IF(CE .LE. 20) GO TO 28
           WRITE(9,510) I,SSAN1,SSAN2,SSAN3
```

```
            WRITE(9,615)
            ERROR = 1
28        CONTINUE
          IF(CC .LE. 27) GO TO 29
            WRITE(9,510) I,SSAN1,SSAN2,SSAN3
            WRITE(9,620)
            ERROR = 1
29        CONTINUE
      GO TO 42
C
C---------------------
C         ASVAB 8/9/10
C---------------------
30    CONTINUE
          IF(GS .LE. 25) GO TO 31
            WRITE(9,510) I, SSAN1,SSAN2,SSAN3
            WRITE(9,625)
            ERROR = 1
31        CONTINUE
          IF(AR .LE. 30) GO TO 32
            WRITE(9,510) I,SSAN1,SSAN2,SSAN3
            WRITE(9,630)
            ERROR = 1
32        CONTINUE
          IF(WK .LE. 35) GO TO 33
            WRITE(9,510) I,SSAN1,SSAN2,SSAN3
            WRITE(9,635)
            ERROR = 1
33        CONTINUE
          IF(PC .LE. 15) GO TO 34
            WRITE(9,510) I,SSAN1,SSAN2,SSAN3
            WRITE(9,640)
            ERROR = 1
34        CONTINUE
          IF(NO .LE. 50) GO TO 35
            WRITE(9,510) I,SSAN1,SSAN2,SSAN3
            WRITE(9,645)
            ERROR = 1
35        CONTINUE
          IF(CS .LE. 84) GO TO 36
            WRITE(9,510) I,SSAN1,SSAN2,SSAN3
            WRITE(9,650)
            ERROR = 1
36        CONTINUE
          IF(AS .LE. 25) GO TO 37
            WRITE(9,510) I,SSAN1,SSAN2,SSAN3
            WRITE(9,655)
            ERROR = 1
```

```
37        CONTINUE
          IF(MK .LE. 25) GO TO 38
             WRITE(9,510) I,SSAN1,SSAN2,SSAN3
             WRITE(9,660)
             ERROR = 1
38        CONTINUE
          IF(MC .LE. 25) GO TO 39
             WRITE(9,510) I,SSAN1,SSAN2,SSAN3
             WRITE(9,665)
             ERROR = 1
39        CONTINUE
          IF(EI .LE. 20) GO TO 40
             WRITE(9,510) I,SSAN1,SSAN2,SSAN3
             WRITE(9,670)
             ERROR = 1
40        CONTINUE
          IF(VE .LE. 50) GO TO 41
             WRITE(9,510) I,SSAN1,SSAN2,SSAN3
             WRITE(9,675)
             ERROR = 1
41        CONTINUE
42      CONTINUE
C
C-----------------------------------
C       VALIDATE DATE OF SEPARATION
C-----------------------------------
C
        IF(ETSYY .EQ. 00) GO TO 43
        IF(ETSYY .GT. 31) GO TO 43
           WRITE(9,510) I,SSAN1,SSAN2,SSAN3
           WRITE(9,680)
           ERROR = 1
43      CONTINUE
        RETURN
C
510     FORMAT(///' ERROR IN RECORD NUMBER: ',I3,' WITH SSAN: ',3A3)
515     FORMAT(' ERROR: DATE OF BIRTH INCORRECT, COLUMNS 10-15')
520     FORMAT(' ERROR: SEX INCORRECT, COLUMN 16')
525     FORMAT(' ERROR: RACE INCORRECT, COLUMN 17')
530     FORMAT(' ERROR: DATE OF ENTRY INCORRECT, COLUMNS 18-23')
535     FORMAT(' ERROR: HIGHEST YEAR OF EDUCATION INCORRECT, COLUMNS 24-
      *25')
540     FORMAT(' ERROR: TEST FORM INCORRECT, COLUMNS 33-34')
545     FORMAT(' ERROR: GI INCORRECT, COLUMNS 37-38')
550     FORMAT(' ERROR: NO INCORRECT, COLUMNS 39-40')
555     FORMAT(' ERROR: AD INCORRECT, COLUMNS 41-42')
560     FORMAT(' ERROR: WK INCORRECT, COLUMNS 43-44')
565     FORMAT(' ERROR: AR INCORRECT, COLUMNS 45-46')
```

```
570    FORMAT(' ERROR: SP INCORRECT, COLUMNS 47-48')
575    FORMAT(' ERROR: MK INCORRECT, COLUMNS 49-50')
580    FORMAT(' ERROR: EI INCORRECT, COLUMNS 51-52')
585    FORMAT(' ERROR: MC INCORRECT, COLUMNS 53-54')
590    FORMAT(' ERROR: GS INCORRECT, COLUMNS 55-56')
595    FORMAT(' ERROR: SI INCORRECT, COLUMNS 57-58')
600    FORMAT(' ERROR: AI INCORRECT, COLUMNS 59-60')
605    FORMAT(' ERROR: CM INCORRECT, COLUMNS 61-62')
610    FORMAT(' ERROR: CA INCORRECT, COLUMNS 63-64')
615    FORMAT(' ERROR: CE INCORRECT, COLUMNS 65-66')
620    FORMAT(' ERROR: CC INCORRECT, COLUMNS 67-68')
625    FORMAT(' ERROR: GS INCORRECT, COLUMNS 37-38')
630    FORMAT(' ERROR: AR INCORRECT, COLUMNS 39 40')
635    FORMAT(' ERROR: WK INCORRECT, COLUMNS 41-42')
640    FORMAT(' ERROR: PC INCORRECT, COLUMNS 43-44')
645    FORMAT(' ERROR: NO INCORRECT, COLUMNS 45-46')
650    FORMAT(' ERROR: CS INCORRECT, COLUMNS 47-48')
655    FORMAT(' ERROR: AS INCORRECT, COLUMNS 49-50')
660    FORMAT(' ERROR: MK INCORRECT, COLUMNS 51-52')
665    FORMAT(' ERROR: MC INCORRECT, COLUMNS 53-54')
670    FORMAT(' ERROR: EI INCORRECT, COLUMNS 55-56')
675    FORMAT(' ERROR: VE INCORRECT, COLUMNS 57-58')
680    FORMAT(' ERROR: DATE OF SEPARATION INCORRECT, COLUMNS 74-79')
       END
C
C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C                                                                            C
C                                                                            C
C      SUBROUTINE ECHO WRITES THE DEMOGRAPHIC DATA AND RAW SCORES TO         C
C    FILE 9.                                                                 C
C                                                                            C
C                                                                            C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C
C
       SUBROUTINE ECHO(SSAN1,SSAN2,SSAN3,DOBYY,DOBMM,DOBDD,SEX,
      *RACE,DOEYY,DOEMM,DOEDD,ED,GRADE,MOS1,MOS2,TEST,AFQT,DES,ETSYY,
      *ETSMM,ETSDD,GS,AR,MK,MC,EI,VE,GI,AD,SP,SI,AI,CM,CA,CE,CC,WK,PC,
      *NC,CS,AS)
C
       INTEGER SSAN1,SSAN2,SSAN3,DOBYY,DOBMM,DOBDD,SEX,RACE,DOEYY,
      *DOEMM,DOEDD,ED,GRADE,MOS1,MOS2,TEST,AFQT,DES,ETSYY,ETSMM,ETSDD,
      *GS,AR,MK,MC,EI,VE,GI,AD,SP,SI,AI,CM,CA,CE,CC,WK,PC,NO,CS,AS
C
C-----------------------------------
C      PRINT SSAN, AND DATE OF BIRTH
C-----------------------------------
```

```
C
      WRITE(9,681) SSAN1,SSAN2,SSAN3,DOBYY,DOBMM,DOBDD
C
C-----------------
C     PRINT SEX
C-----------------
C
      IF(SEX .NE. 1) GO TO 45
         WRITE(9,685)
      GO TO 46
45    CONTINUE
         WRITE(9,690)
46    CONTINUE
C
C-----------------
C     PRINT RACE
C-----------------
C
      IF(RACE .NE. 1) GO TO 47
         WRITE(9,695)
      GO TO 50
47    IF(RACE .NE. 2) GO TO 48
         WRITE(9,700)
      GO TO 50
48    CONTINUE
         WRITE(9,705)
50    CONTINUE
C
C-------------------------
C     PRINT DATE OF ENTRY
C-------------------------
C
      WRITE(9,710) DOEYY,DOEMM,DOEDD
C
C-------------------------------------
C     PRINT HIGHEST YEAR OF EDUCATION
C-------------------------------------
C
      IF(ED .LT. 1) GO TO 120
      IF(ED .GT. 13) GO TO 120
      GO TO (55,60,65,70,75,80,85,90,95,100,105,110,115),ED
55    CONTINUE
         WRITE(9,711) ED
      GO TO 120
60    CONTINUE
         WRITE(9,715) ED
      GO TO 120
65    CONTINUE
```

```
            WRITE(9,720) ED
         GO TO 120
70       CONTINUE
            WRITE(9,725) ED
         GO TO 120
75       CONTINUE
            WRITE(9,730) ED
         GO TO 120
80       CONTINUE
            WRITE(9,735) ED
         GO TO 120
85       CONTINUE
            WRITE(9,740) ED
         GO TO 120
90       CONTINUE
            WRITE(9,745) ED
         GO TO 120
95       CONTINUE
            WRITE(9,750) ED
         GO TO 120
100      CONTINUE
            WRITE(9,755) ED
         GO TO 120
105      CONTINUE
            WRITE(9,760) ED
         GO TO 120
110      CONTINUE
            WRITE(9,765) ED
         GO TO 120
115      CONTINUE
            WRITE(9,770) ED
120      CONTINUE
C
C-----------------
C        PRINT GRADE
C-----------------
C
         IF(GRADE .LT. 1) GO TO 170
         IF(GRADE .GT. 9) GO TO 170
         GO TO (125,130,135,140,145,150,155,160,165),GRADE
125      CONTINUE
            WRITE(9,775) GRADE
         GO TO 170
130      CONTINUE
            WRITE(9,780) GRADE
         GO TO 170
135      CONTINUE
            WRITE(9,785) GRADE
```

```
      GO TO 170
140   CONTINUE
         WRITE(9,790) GRADE
      GO TO 170
145   CONTINUE
         WRITE(9,795) GRADE
      GO TO 170
150   CONTINUE
         WRITE(9,800) GRADE
      GO TO 170
155   CONTINUE
         WRITE(9,810) GRADE
      GO TO 170
160   CONTINUE
         WRITE(9,815) GRADE
      GO TO 170
165   CONTINUE
         WRITE(9,820) GRADE
170   CONTINUE
C
C----------------
C     PRINT MOS
C----------------
C
      WRITE(9,825) MOS1,MOS2
C
C-------------------------
C     PRINT TEST VERSION
C-------------------------
C
      IF(TEST .NE. 35) GO TO 175
         WRITE(9,830) TEST
      GO TO 200
175   IF(TEST .NE. 36) GO TO 180
         WRITE(9,835) TEST
      GO TO 200
180   IF(TEST .NE. 37) GO TO 185
         WRITE(9,840) TEST
      GO TO 200
185   IF(TEST .NE. 38) GO TO 190
         WRITE(9,845) TEST
      GO TO 200
190   IF(TEST .NE. 39) GO TO 195
         WRITE(9,850) TEST
      GO TO 200
195   CONTINUE
         WRITE(9,855) TEST
200   CONTINUE
```

```
C
C-----------------------------
C     PRINT AFQT PERCENTILE
C-----------------------------
C
      WRITE(9,860) AFQT
C
C-----------------------------------------
C     PRINT SEPARATION PROGRAM DESIGNATOR
C-----------------------------------------
C
      WRITE(9,865) DES
C
C------------------------------
C     PRINT DATE OF SEPARATION
C------------------------------
C
      WRITE(9,870) ETSYY,ETSMM,ETSDD
      WRITE(9,871)
C
C------------------------------
C     PRINT ASVAB 5 RAW SCORES
C------------------------------
C
      IF(TEST .NE. 35) GO TO 205
         WRITE(9,874)
         WRITE(9,875) GI,NO,AD,WK,AR,SP,MK,EI,MC,GS,SI,AI
      GO TO 215
205   CONTINUE
C
C-------------------------------
C     PRINT ASVAB 6/7 RAW SCORES
C-------------------------------
C
      IF(TEST .GT. 37) GO TO 210
         WRITE(9,879)
         WRITE(9,880) GI,NO,AD,WK,AR,SP,MK,EI,MC,GS,SI,AI,CM,CA,CE,CC
      GO TO 215
210   CONTINUE
C
C---------------------------------
C     PRINT ASVAB 8/9/10 RAW SCORES
C---------------------------------
C
         WRITE(9,884)
         WRITE(9,885) GS,AR,WK,PC,NO,CS,AS,MK,MC,EI,VE
215   CONTINUE
      RETURN
```

```
C
681   FORMAT(///,' SSAN',25X,': ',3A3,/' DATE OF BIRTH(YY/MM/DD)',6X,
     *': ',I2,'/',I2,'/',I2)
685   FORMAT(' SEX                              : 1 - MALE')
690   FORMAT(' SEX                              : 2 - FEMALE')
695   FORMAT(' RACE                             : 1 - WHITE')
700   FORMAT(' RACE                             : 2 - BLACK')
705   FORMAT(' RACE                             : 3 - OTHER')
710   FORMAT(' DATE OF ENTRY(YY/MM/DD)          : ',I2,'/',I2,'/',I2)
711   FORMAT(' HIGHEST YEAR OF EDUCATION        : 1-7 YEARS - ',I2)
715   FORMAT(' HIGHEST YEAR OF EDUCATION        : 8 YEARS - ',I2)
720   FORMAT(' HIGHEST YEAR OF EDUCATION        : 1 YEAR OF HIGH SCHOOL - '
     *,I2)
730   FORMAT(' HIGHEST YEAR OF EDUCATION        : 3-4 YEARS OF HIGH',
     *'SCHOOL - ',I2)
725   FORMAT(' HIGHEST YEAR OF EDUCATION        : 2 YEARS OF HIGH SCHOOL - '
     *,I2)
735   FORMAT(' HIGHEST YEAR OF EDUCATION        : HIGH SCHOOL DIPLOMA - '
     *,I2)
740   FORMAT(' HIGHEST YEAR OF EDUCATION        : 1 YEAR OF COLLEGE - '
     *,I2)
745   FORMAT(' HIGHEST YEAR OF EDUCATION        : 2 YEARS OF COLLEGE - '
     *,I2)
750   FORMAT(' HIGHEST YEAR OF EDUCATION        : 3-4 YEARS OF COLLEGE - '
     *,I2)
755   FORMAT(' HIGHEST YEAR OF EDUCATION        : COLLEGE GRADUATE - ',I2)
760   FORMAT(' HIGHEST YEAR OF EDUCATION        : MASTERS DEGREE - ', I2)
765   FORMAT(' HIGHEST YEAR OF EDUCATION        : DOCTORS DEGREE - ',I2)
770   FORMAT(' HIGHEST YEAR OF EDUCATION        : HIGH SCHOOL GED - ',I2)
775   FORMAT(' ENTRY PAY GRADE                  : E1 ',I2)
780   FORMAT(' ENTRY PAY GRADE                  : E2 ',I2)
785   FORMAT(' ENTRY PAY GRADE                  : E3 ',I2)
790   FORMAT(' ENTRY PAY GRADE                  : E4 ',I2)
795   FORMAT(' ENTRY PAY GRADE                  : E5 ',I2)
800   FORMAT(' ENTRY PAY GRADE                  : E6 ',I2)
810   FORMAT(' ENTRY PAY GRADE                  : E7 ',I2)
815   FORMAT(' ENTRY PAY GRADE                  : E8 ',I2)
820   FORMAT(' ENTRY PAY GRADE                  : E9 ',I2)
825   FORMAT(' MOS                              : ',A4,A1)
830   FORMAT(1X,I2,' TEST FORM                    : ASVAB 5')
835   FORMAT(1X,I2,' TEST FORM                    : ASVAB 6')
840   FORMAT(1X,I2,' TEST FORM                    : ASVAB 7')
845   FORMAT(1X,I2,' TEST FORM                    : ASVAB 8')
850   FORMAT(1X,I2,' TEST FORM                    : ASVAB 9')
855   FORMAT(1X,I2,' TEST FORM                    : ASVAB 10')
860   FORMAT(' AFQT PERCENTILE                : ',I2)
865   FORMAT(' SEPARATION PROGRAM DESIGNATOR: ', A3)
870   FORMAT(' DATE OF SEPARATION(YY/MM/DD) : ',I2,'/',I2,'/',I2)
```

```
871    FORMAT(/16X,'SUBTEST RAW SCORES')
874    FORMAT('    GI  NO  AD  WK  AR  SP  MK  EI  MC  GS  SI  AI')
875    FORMAT(1X,12(2X,I2))
879    FORMAT('    GI  NO  AD  WK  AR  SP  MK  EI  MC  GS  SI  AI  CM  CA
      * CE  CC')
880    FORMAT(1X,16(2X,I2))
884    FORMAT('    GS  AR  WK  PC  NO  CS  AS  MK  MC  EI  VE')
885    FORMAT(1X,11(2X,I2))
       END
C
C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C                                                                       C
C                                                                       C
C      SUBROUTINE SSS CONVERTS THE SUBTEST RAW SCORES INTO SUBTEST      C
C    STANDARD SCORES.                                                   C
C                                                                       C
C                                                                       C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C
C
       SUBROUTINE SSS(GI,AD,SP,SI,AI,CM,CA,CE,CC,GS,AR,WK,PC,NC,CS,AS,
      *MK,MC,EI,VE,TEST,GISSS,ADSSS,SPSSS,SISSS,AISSS,CMSSS,CASSS,CESSS,
      *CCSSS,GSSSS,ARSSS,WKSSS,PCSSS,NOSSS,CSSSS,ASSSS,MKSSS,MCSSS,
      *EISSS,VESSS)
C
       INTEGER  GI,AD,SP,SI,AI,CM,CA,CE,CC,GS,AR,WK,PC,NO,CS,AS,MK,MC,
      *EI,VE,TEST,GISSS,ADSSS,SPSSS,SISSS,AISSS,CMSSS,CASSS,CESSS,
      *CCSSS,GSSSS,ARSSS,WKSSS,PCSSS,NOSSS,CSSSS,ASSSS,MKSSS,MCSSS,
      *EISSS,VESSS
C
       REAL  CONVT,GIR,ADR,SPR,SIR,AIR,CMR,CAR,CER,CCR,GSR,ARR,WKR,PCR,
      *NOR,CSR,ASR,MKR,MCR,EIR,VER
C
C
C-------------------------
C      CONVERT ASVAB 8/9/10
C-------------------------
C
       IF((TEST .NE. 38) .AND.(TEST .NE. 39) .AND.(TEST .NE. 40))
      *GO TO 220
           GSR=FLOAT(GS)
           GSSSS=CONVT(GSR,16.199,5.087)
           ARR=FLOAT(AR)
           ARSSS=CONVT(ARR,17.766,7.2)
           WKR=FLOAT(WK)
           WKSSS=CONVT(WKR,25.670,7.658)
           PCR=FLOAT(PC)
```

```
            PCSSS=CCNVT(PCR,10.483,3.436)
            NOR=FLOAT(NO)
            NOSSS=CCNVT(NOR,36.027,10.387)
            CSR=FLOAT(CS)
            CSSSS=CONVT(CSR,43.149,16.121)
            ASR=FLOAT(AS)
            ASSSS=CCNVT(ASR,16.413,5.597)
            MKR=FLOAT(MK)
            MKSSS=CCNVT(MKR,12.468,5.950)
            MCR=FLOAT(MC)
            MCSSS=CCNVT(MCR,15.519,5.570)
            EIR=FLOAT(EI)
            EISSS=CCNVT(EIR,12.451,4.316)
            VER=FLOAT(VE)
            VESSS=CCNVT(VER,36.153,10.613)
         GO TO 225
C
C-------------------------
C        CCNVERT ASVAB 5/6/7
C-------------------------
C
220      CCNTINUE
            GIR=FLOAT(GI)
            GISSS=CCNVT(GIR,9.656,3.273)
            NOR=FLOAT(NO)
            NOSSS=CCNVT(NOR,30.826,10.049)
            ADR=FLOAT(AD)
            ADSSS=CCNVT(ADR,14.410,3.957)
            WKR=FLOAT(WK)
            WKSSS=CCNVT(WKR,19.638,7.251)
            ARR=FLOAT(AR)
            ARSSS=CONVT(ARR,12.739,4.729)
            SPR=FLOAT(SP)
            SPSSS=CCNVT(SPR,13.197,4.257)
            MKR=FLOAT(MK)
            MKSSS=CCNVT(MKR,11.636,4.932)
            EIR=FLOAT(EI)
            EISSS=CCNVT(EIR,19.474,5.955)
            MCR=FLOAT(MC)
            MCSSS=CCNVT(MCR,10.842,4.361)
            GSR=FLOAT(GS)
            GSSSS=CCNVT(GSR,11.317,4.362)
            SIR=FLOAT(SI)
            SISSS=CCNVT(SIR,13.648,4.302)
            AIR=FLOAT(AI)
            AISSS=CCNVT(AIR,11.773,4.946)
225      CCNTINUE
C
```

```
C-----------------------
C     CONVERT ASVAB 6/7
C-----------------------
C
      IF((TEST .NE. 36) .AND. (TEST .NE. 37)) GO TO 230
         CMR=FLOAT(CM)
         CMSSS=CONVT(CMR,10.97,4.69)
         CAR=FLOAT(CA)
         CASSS=CONVT(CAR,9.68,2.91)
         CER=FLOAT(CE)
         CESSS=CONVT(CER,8.92,4.21)
         CCR=FLOAT(CC)
         CCSSS=CONVT(CCR,15.51,4.89)
230   CONTINUE
      RETURN
      END
C
C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C                                                                           C
C                                                                           C
C     FUNCTION CONVT CONVERTS THE SUBTEST RAW SCORES TO SUBTEST             C
C   STANDARD SCORES.                                                        C
C                                                                           C
C                                                                           C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C
      REAL FUNCTION CONVT(RAW,XBAR,SIGMA)
C
C-----------------------------
C     VARIABLES AND CONSTANTS
C-----------------------------
C
C     RAW           SUBTEST RAW SCORE.
C     XBAR          SUBTEST POPULATION MEAN.
C     SIGMA         SUBTEST POPULATION STANDARD DEVIATION.
C     T             TEMPORARY VARIABLE.
C     TT            TEMPORARY VARIABLE.
C     TTT           TEMPORARY VARIABLE.
C
C-----------------------
C     DECLARE VARIABLES
C-----------------------
C
      INTEGER TT
      REAL T,DIFF,TTT,XBAR,SIGMA,RAW
C
```

```
      T=(10.0*(RAW-XBAR)/SIGMA)+50.0
      TT=IFIX(T)
      TTT=FLOAT(TT)
      DIFF=T-TTT
      IF(DIFF .GE. 0.5) GO TO 10
         CONVT=TT
      GO TO 20
10    CONTINUE
         CONVT=TT+1
20    CONTINUE
      IF(CONVT .LT. 20) CONVT=20
      IF(CONVT .GT. 80) CONVT=80
      RETURN
      END
C
C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C                                                                              C
C                                                                              C
C     SUBROUTINE COMP COMPUTES THE ACB COMPOSITE SCORES.                       C
C                                                                              C
C                                                                              C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C
C.
      SUBROUTINE COMP(GSSSS,ARSSS,WKSSS,PCSSS,NOSSS,CSSSS,ASSSS,MKSSS,
     *MCSSS,EISSS,VESSS,GISSS,ADSSS,SPSSS,SISSS,AISSS,CMSSS,
     *CASSS,CESSS,CCSSS,GS,AR,WK,PC,NO,CS,AS,MK,MC,EI,VE,GI,AD,SP,
     *SI,AI,CM,CE,CA,CC,CO,FA,EL,OF,GM,MM,CL,GT,ST,SC,TEST)
C
      INTEGER GSSSS,ARSSS,WKSSS,PCSSS,NOSSS,CSSSS,ASSSS,MKSSS,
     *MCSSS,EISSS,VESSS,GISSS,ADSSS,SPSSS,SISSS,AISSS,CMSSS,TEST,
     *CASSS,CESSS,CCSSS,GS,AR,WK,PC,NO,CS,AS,MK,MC,EI,VE,GI,AD,SP,
     *SI,AI,CM,CA,CE,CC,CO,FA,EL,OF,GM,MM,CL,GT,ST,SC
C
C----------------------
C     COMPUTE ASVAB 5
C----------------------
C
      IF(TEST .NE. 35) GO TO 235
         CO=ARSSS+SISSS+SPSSS+ADSSS
         FA=ARSSS+GISSS+MKSSS+EISSS
         MM=MKSSS+SISSS+EISSS+AISSS
         GM=ARSSS+GSSSS+MCSSS+AISSS
         CL=ARSSS+WKSSS+ADSSS
         GT=ARSSS+WKSSS
         EL=ARSSS+EISSS+MCSSS+SISSS
         SC=ARSSS+WKSSS+MCSSS+SPSSS
```

```
         ST=ARSSS+MKSSS+GSSSS
         OF=GISSS+AISSS
      GO TO 245
C
C-------------------------
C     COMPUTE ASVAB 6/7
C-------------------------
C
235   IF((TEST .NE. 36) .AND. (TEST .NE. 37)) GO TO 240
         CO=AR+SI+SP+AD+CC
         FA=AR+GI+MK+EI+CA
         MM=MK+SI+EI+AI+CM
         GM=AR+GS+MC+AI
         CL=AR+WK+AD+CA
         GT=AR+WK
         EL=AR+EI+MC+SI+CE
         SC=AR+WK+MC+SP
         ST=AR+MK+GS
         OF=GI+AI+CA
      GO TO 245
C
C-------------------------
C     COMPUTE ASVAB 8/9/10
C-------------------------
C
240   CONTINUE
         CO=ARSSS+ASSSS+MCSSS+CSSSS
         FA=ARSSS+MKSSS+MCSSS+CSSSS
         EL=ARSSS+EISSS+MKSSS+GSSSS
         OF=NOSSS+VESSS+MCSSS+ASSSS
         SC=NOSSS+CSSSS+VESSS+ASSSS
         MM=NOSSS+EISSS+MCSSS+ASSSS
         GM=MKSSS+EISSS+GSSSS+ASSSS
         CL=NOSSS+CSSSS+VESSS
         ST=VESSS+MKSSS+MCSSS+GSSSS
         GT=VESSS+ARSSS
245   CONTINUE
      RETURN
      END
C
C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C                                                                             C
C                                                                             C
C     SUBROUTINE ACB CONVERTS THE ACB SCORES INTO STANDARD SCORES.            C
C                                                                             C
C                                                                             C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
```

```
C
C
      SUBROUTINE ACB(A5 ,A67,A8910,TEST,GT,GM,EL,CL,MM,SC,CO,FA,OF,ST)
C
      INTEGER A5(320,10),A67(111,10),A8910(281,10),GT,GM,EL,CL,MM,SC,
     *CO,FA,OF,ST,TEST
C
C
C----------------------
C     CONVERT ASVAB 5
C----------------------
C
      IF(TEST .NE. 35) GO TO 250
         GT=A5(GT,1)
         GM=A5(GM,2)
         EL=A5(EL,3)
         CL=A5(CL,4)
         MM=A5(MM,5)
         SC=A5(SC,6)
         CO=A5(CO,7)
         FA=A5(FA,8)
         OF=A5(OF,9)
         ST=A5(ST,10)
      GO TO 260
C
C-----------------------
C     CONVERT ASVAB 6/7
C-----------------------
C
250   IF((TEST .NE. 36).AND.(TEST .NE. 37)) GO TO 255
         GT=A67(GT+1,1)
         GM=A67(GM+1,2)
         EL=A67(EL+1,3)
         CL=A67(CL+1,4)
         MM=A67(MM+1,5)
         SC=A67(SC+1,6)
         CO=A67(CO+1,7)
         FA=A67(FA+1,8)
         OF=A67(OF+1,9)
         ST=A67(ST+1,10)
      GO TO 260
C
C-------------------------
C     CONVERT ASVAB 8/9/10
C-------------------------
C
255   CONTINUE
         GT=A8910(GT,1)
```

```
          GM=A8910(GM,2)
          EL=A8910(EL,3)
          CL=A8910(CL,4)
          MM=A8910(MM,5)
          SC=A8910(SC,6)
          CO=A8910(CO,7)
          FA=A8910(FA,8)
          OF=A8910(OF,9)
          ST=A8910(ST,10)
260     CONTINUE
C
        RETURN
        END
C
C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C                                                                           C
C                                                                           C
C       SUBROUTINE OUT WRITES THE SUBTEST RAW SCORES TO FILE 11, THE        C
C     SUBTEST STANDARD SCORES TO FILES 9 AND 10, AND THE ACB COMPOSITE      C
C     SCORES TO FILES 9 AND 12.                                             C
C                                                                           C
C                                                                           C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C
C
        SUBROUTINE OUT(SSAN1,SSAN2,SSAN3,AFQT,GSSSS,ARSSS,MKSSS,MCSSS,
       *EISSS,VESSS,GISSS,ADSSS,SPSSS,SISSS,AISSS,CMSSS,CASSS,CESSS,
       *CCSSS,NOSSS,ASSSS,WKSSS,CSSSS,PCSSS,TEST,CO,FA,MM,GM,CL,GT,
       *EL,SC,ST,OF,GS,AR,MK,MC,EI,VE,GI,AD,SP,SI,AI,CM,CA,CE,CC,WK,
       *PC,NO,CS,AS)
C
        INTEGER SSAN1,SSAN2,SSAN3,AFQT,GSSSS,ARSSS,MKSSS,MCSSS,CSSSS,
       *EISSS,VESSS,GISSS,ADSSS,SPSSS,SISSS,AISSS,CMSSS,CASSS,CESSS,
       *CCSSS,NOSSS,ASSSS,WKSSS,PCSSS,CO,FA,MM,GM,CL,GT,EL,SC,ST,OF,
       *TEST,GS,AR,MK,MC,EI,VE,GI,AD,SP,SI,AI,CM,CA,CE,CC,WK,PC,NO,CS,AS
C
C-------------------
C       PRINT HEADINGS
C-------------------
C
        WRITE(9,890)
C
C-----------------------------------------
C       PRINT SUBTEST RAW AND STANDARD SCORES
C-----------------------------------------
C
C
```

```
C--------------------
C      PRINT ASVAB 5
C--------------------
C
       IF(TEST .NE. 35) GO TO 265
          WRITE(9,874)
          WRITE(9,875) GISSS,NOSSS,ADSSS,WKSSS,ARSSS,SPSSS,MKSSS,EISSS,
      *   MCSSS,GSSSS,SISSS,AISSS
          WRITE(10,876) SSAN1,SSAN2,SSAM3,GISSS,NOSSS,ADSSS,WKSSS,ARSSS,
      *   SPSSS,MKSSS,EISSS,MCSSS,GSSSS,SISSS,AISSS
          WRITE(11,876) SSAN1,SSAN2,SSAN3,GI,NO,AD,WK,AR,SP,MK,EI,MC,
      *   GS,SI,AI
       GO TO 275
C
C----------------------
C      PRINT ASVAB 6/7
C----------------------
C
265    IF(TEST .GT. 37) GO TO 270
          WRITE(9,879)
          WRITE(9,880) GISSS,NOSSS,ADSSS,WKSSS,ARSSS,SPSSS,MKSSS,EISSS,
      *   MCSSS,GSSSS,SISSS,AISSS,CMSSS,CASSS,CESSS,CCSSS
          WRITE(10,881) SSAN1,SSAN2,SSAN3,GISSS,NOSSS,ADSSS,WKSSS,ARSSS,
      *   SPSSS,MKSSS,EISSS,MCSSS,GSSSS,SISSS,AISSS,CMSSS,CASSS,CESSS,
      *   CCSSS
          WRITE(11,881) SSAN1,SSAN2,SSAN3,GI,NO,AD,WK,AR,SP,MK,EI,MC,
      *   GS,SI,AI,CM,CA,CE,CC
       GO TO 275
C
C-------------------------
C      PRINT ASVAB 8/9/10
C-------------------------
C
270    CONTINUE
          WRITE(9,884)
          WRITE(9,885) GSSSS,ARSSS,WKSSS,PCSSS,NOSSS,CSSSS,ASSSS,MKSSS,
      *   MCSSS,EISSS,VESSS
          WRITE(10,886) SSAN1,SSAN2,SSAN3,NOSSS,WKSSS,ARSSS,MKSSS,EISSS,
      *   MCSSS,GSSSS,PCSSS,CSSSS,ASSSS,VESSS
          WRITE(11,886) SSAN1,SSAN2,SSAN3,GS,AR,WK,PC,NO,CS,AS,MK,
      *   MC,EI,VE
275    CONTINUE
C
C-------------------------------
C      PRINT ACB COMPOSITE SCORES
C-------------------------------
C
       WRITE(9,910)
```

```
      WRITE(9,915)
      WRITE(9,920) CO,FA,MM,GM,CL,GT,EL,SC,ST,OF
      WRITE(12,921) SSAN1,SSAN2,SSAN3,AFQT,CO,FA,MM,GM,CL,GT,EL,SC,
     *ST,OF
      RETURN
C
874   FORMAT('    GI  NO  AD  WK  AR  SP  MK  EI  MC  GS  SI  AI')
875   FORMAT(1X,12(2X,I2))
876   FORMAT(1X,3A3,3X,12(I2,1X))
879   FORMAT('    GI  NO  AD  WK  AR  SP  MK  EI  MC  GS  SI  AI  CM  CA
     * CE  CC')
880   FORMAT(1X,16(2X,I2))
881   FORMAT(1X,3A3,3X,16(I2,1X))
884   FORMAT('    GS  AR  WK  PC  NO  CS  AS  MK  MC  EI  VE')
885   FORMAT(1X,11(2X,I2))
886   FORMAT(1X,3A3,6X,I2,4X,2(I2,1X),3X,4(I2,1X),18X,4(I2,1X))
890   FORMAT(/12X,'SUBTEST STANDARD SCORES')
910   FORMAT(/6X,'ARMY CLASSIFICATION BATTERY COMPOSITES')
915   FORMAT('   CO   FA   MM   GM   CL   GT   EL   SC   ST   OF')
920   FORMAT(1X,10(I3,2X))
921   FORMAT(1X,3A3,6X,11(I3,1X))
      END
```

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